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Calspan SRL Corporation
[REDACTED] New York [REDACTED]

**CALSPAN ON-SITE AIR BAG DEPLOYMENT
FOREARM FRACTURE CRASH INVESTIGATION**

CALSPAN CASE NO. CA 96-05

**VEHICLE #1 - 1995 VOLVO 940
VEHICLE #2 - 1994 NISSAN SENTRA XE LIMITED EDITION**

LOCATION - STATE OF NEW YORK

CRASH DATE [REDACTED], 1996

Contract No. DTNH22-94-D-07058

Prepared for:

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Washington, D.C. 20590

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The crash investigation process is an inexact science which requires that physical evidence such as skid marks, vehicular damage measurements, and occupant contact points are coupled with the investigator's expert knowledge and experience of vehicle dynamics and occupant kinematics in order to determine the pre-crash, crash, and post-crash movements of involved vehicles and occupants.

Because each crash is a unique sequence of events, generalized conclusions cannot be made concerning the crashworthiness performance of the involved vehicle(s) or their safety systems.

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15. Supplementary Notes On-site investigation of a crash between a 1995 Volvo 940 and a 1994 Nissan Sentra XE Limited Edition which the driver of the air bag equipped 1995 Volvo 940 suffered comminuted fractures of the right forearm.			
16. Abstract <p>An on-site investigation was conducted into a two vehicle crash which occurred in the month of [REDACTED] 1996 in the early evening hours. The crash occurred in a four leg intersection of a five lane undivided, asphalt, undivided straight section of roadway which was snow/ice covered.</p> <p>A 1995 Volvo 940 (Vehicle #1) equipped with dual front air bags was making a left turn at a four leg intersection which was controlled by a traffic signal when it was struck on the right side plane by the frontal plane of 1994 Nissan Sentra XE Limited Edition (Vehicle #2). The crash event deployed the air bag systems in both vehicles. Vehicle #1 came to the final rest position in the westbound travel lane facing northbound. Driver #1 subsequently moved the vehicle short distance to the right shoulder of the northbound intersecting roadway adjacent to the intersection boundary. Vehicle #2 came to rest in the westbound travel lane. The SMASH speed reconstruction algorithm computed the delta V for Vehicle #1 as 13.0 km/h (8.0 mph) and 18 km/h (11.0 mph) for Vehicle #2.</p> <p>The driver of Vehicle #1, a 70 year old female who was 161.3 cm (63.5") tall and weighed 59.9 kg (132.0 lb.), sustained a comminuted fracture of the right radius and ulna, contusion of the right wrist, abrasions of the right cheek, right side of nose, and under the chin. These injuries were attributed to contact with the Supplemental Restraint System (SRS) during the deployment sequence. Rescue arrived within ten minutes of the crash. Driver #1 was removed from the vehicle by rescue using a backboard and cervical collar. She was transported via ambulance to a local hospital where she was treated and released. The driver returned to the hospital two days later where she was admitted for open reduction internal fixation surgery of the right radius and ulna. She was discharged two days later.</p> <p>The 24 year female driver of Vehicle #2 was not injured and not transported to a medical treatment facility.</p>			
17. Key Words Tethered driver side air bag, Vehicle #1 Comminuted fracture of the right radius, ulna right Open reduction internal fixation surgical procedure AIS-3 level injury (Serious)		18. Distribution Statement General Public	
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CALSPAN AIR BAG DEPLOYMENT**CALSPAN CASE NO. CA 96-05****VEHICLE #1 - 1995 VOLVO 940****VEHICLE #2 - 1994 NISSAN SENTRA XE LIMITED EDITION****LOCATION - STATE OF NEW YORK****CRASH DATA - [REDACTED], 1996****BACKGROUND**

The National Highway Traffic Safety Administration was notified of the crash by the Calspan Team after a member of the Team was informed by a relative of Driver #1 five days after the crash. The relative initially indicated Driver #1 was fortunate to be alive and attributed this to the performance of the air bag. Upon further probing, it was learned that Driver #1 had suffered a fracture of the right forearm as the most significant injury. This information was conveyed to the Field Operations Branch of NHTSA and an investigation was opened the same day of notification.

SUMMARY

An on-site investigation was conducted into a two vehicle crash which occurred on in the month of [REDACTED] 1996 during the early evening hours in the State of New York. The weather at the time of the crash was snow conditions with the temperature at -6°C (21°F). The crash occurred at a four leg intersection of a five lane undivided, level, straight, slushy surface asphalt roadway.

The driver of Vehicle #1, a 70 year old female who was 161.3 cm (63.5") tall and weighed 59.9 kg (132 lb.), was wearing the available three point manual lap and torso restraint belt. Just prior to the crash, she attempted a left turn at the intersection en route to her residence. Her vehicle, a 1995 Volvo 940 (Vehicle #1) equipped with dual front air bags was traveling eastbound and was in the process of traveling north on a three lane intersecting roadway when it was struck on the right side plane by the front of a 1994 Nissan Sentra XE Limited Edition (Vehicle #2). Vehicle #2 was traveling westbound in the right through lane. Driver #1 reportedly did not see Vehicle #2's approach prior to the crash. Vehicle #2 struck the Vehicle #1's right front fender with its right front corner and continued down the right side plane.

Both vehicles came to the final rest positions (FRP) in the westbound travel lanes. Driver #1 was concerned that her location on the roadway would create a risk for other motorists and subsequently moved her vehicle from the FRP a short distance to the east shoulder of the northbound intersecting roadway which was adjacent to the intersection boundary.

Driver #1 remained in her vehicle until rescue arrive. The EMTs removed her from the vehicle using a backboard and applied a cervical collar to her neck and a splint to her right forearm.

She was transported via ambulance to a local hospital which was located within 0.4 km (0.25 miles) of the crash scene. Treatment in the emergency room included a closed reduction of the forearm fracture with a temporary cast applied. She was released six hours after the crash with follow-up medical evaluation scheduled for the following week.

Two days after the crash Driver #1 was admitted to the hospital where she underwent a surgical procedure involving the open reduction internal fixation of the comminuted fracture of the right radius and ulna. A seven hole screw plate was subsequently affixed to the radius and a 3.2 mm Rush bar inserted to stabilize the ulna. She was discharged from the hospital two days later.

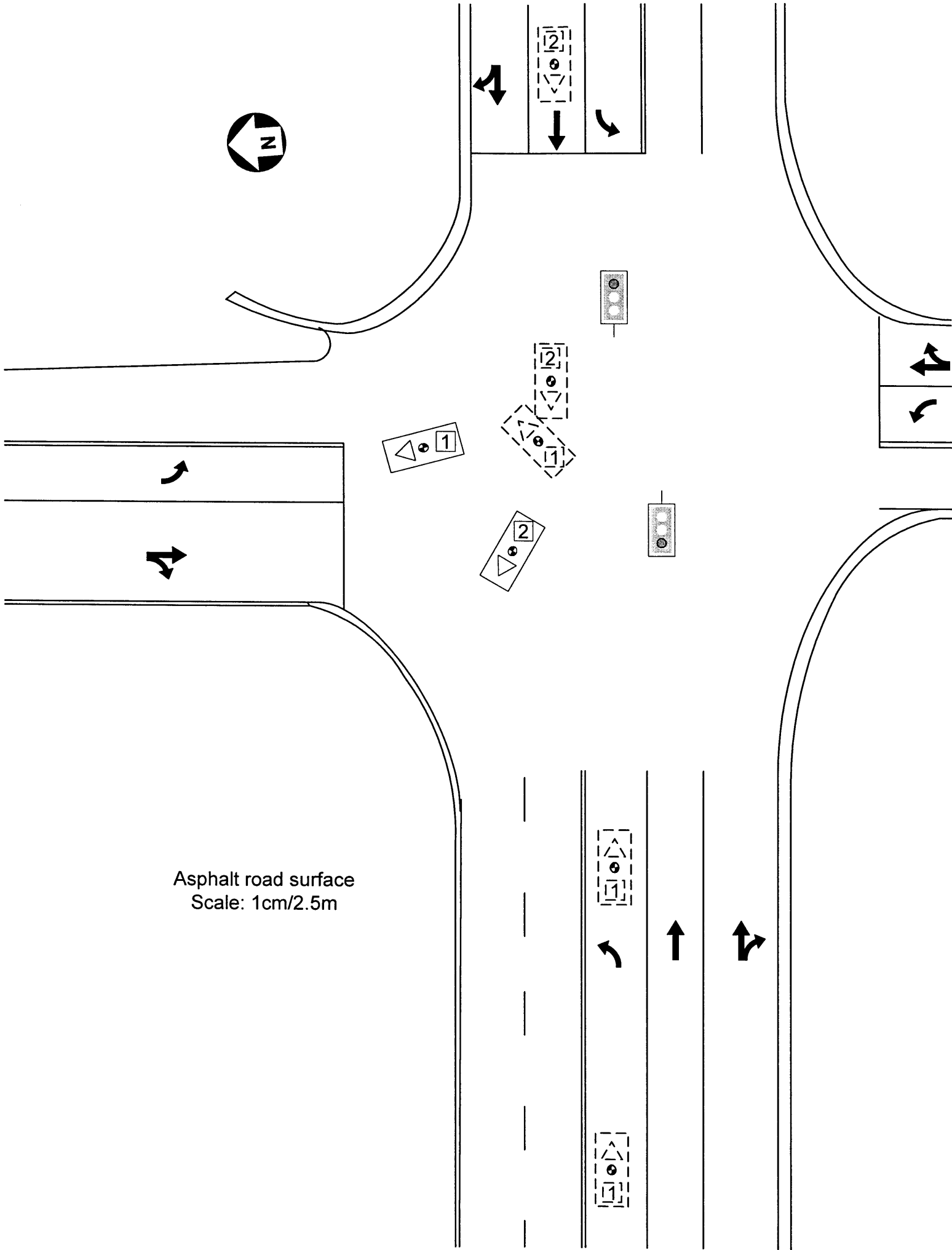
Driver #2, a 24 year old female, was not injured according to the police accident report. Her vehicle was equipped with a driver side only air bag which deployed during the impact sequence.

Direct contact damage on Vehicle #1 was located 36.8 cm (14.5") forward of the right rear axle and extended forward 264.2 cm (104.0"). The maximum crush measured 24.5 cm (9.25") and was located 215.9 cm (85.0") forward of the right rear axle at a height of 48.3 cm (19.0") above ground level. The Collision Deformation Classification (CDC) for Vehicle #1 was 01-RYEW-3. This resulted in a total delta V of 13 km/h (8 mph) as computed by the damage routine of the SMASH speed reconstruction program with a longitudinal component of -11 km/h (-7 mph). The deformation pattern and delta V appeared sufficient to actuate the SRS.

At the time of the crash, Driver #1's right forearm was positioned over the air bag module cover while attempting to make a left turn. As the air bag initiated the deployment sequence, the air bag module cover contacted the driver's forearm resulting in a comminuted fracture of the distal third of the right radius and ulna. Her right arm was subsequently propelled upward and toward the right by the expanding air bag. The driver's facial area was then contacted the air bag resulting in abrasions of the right cheek, nose, chin, and undersurface of the neck.

Contact damage on the frontal plane of Vehicle #2 began at the right front bumper corner and extended 52.1 cm (20.5") to the left. The maximum crush of 12.4 cm (4.9") was recorded at the right front bumper corner. The CDC for this impact was 11-FREW-1. The total delta V computed by the damage routine of the SMASH speed reconstruction program was 18.0 km/h (11.0 mph). This resulted in the normal deployment sequence of the SRS.

The 24 year female driver of Vehicle #2 was restrained by the available three point manual lap and shoulder belt. She was not injured during the crash.



CRASH DEMOGRAPHIC DATA

Location:	State of New York
Area/Type:	Residential/commercial
Investigating Police Agency:	Local Police Department
Accident Type:	Vehicle #1 left turn across path of Vehicle #2
Air Bag Vehicle Driver Injury Severity:	Serious (AIS-3)

AMBIENCE

Viewing Conditions:	Evening, overhead illumination
Weather:	Snow
Road Surface:	Snow/ice

HIGHWAY

Type:	County highway
Number Of Lanes:	4 travel lanes with opposing left turn lanes
Roadway Width:	15.9 m (52.2') spillway to spillway
Surface:	Asphalt
Median:	None
Edge:	Curbs preceded by 0.6 m (2.0') wide spillways
Vertical Alignment:	Level
Horizontal Alignment:	Straight
Estimated Coefficient Of Friction:	0.2 μ
Traffic Density:	Moderate

TRAFFIC CONTROLS

Signals:	Traffic signal with left turn arrows
Signs:	None

Markings:	Full barrier yellow center lines, a solid white left turn bay line with solid white left turn arrows in both travel directions, white broken lane lines, solid white straight through arrows preceding the intersection in the second lane from the curb in both travel directions, and solid white combination arrows for straight and right turn directions in the curb lane for both travel directions preceding the intersection
Speed Limit:	72 km/h (45 mph)

VEHICLE DESCRIPTION	
Vehicle #1	
Description:	1995 Volvo 940, 4 door sedan
V.I.N.:	YV1JS8312S3 (Serial # omitted)
Color:	White
Odometer:	8,909 km (5,536 miles)
Engine:	2.3 L
Transmission:	3 speed automatic
Steering:	Power
Brakes:	Power assisted front disc and rear drum brakes
Padding:	Upper and mid instrument panel, soft edge steering wheel rim and air bag module cover, door panels, door arm rests, seats, roof liner, and sunvisors
Active Restraints:	3-point lap and shoulder belts in the four outboard seating positions with torso belt pretensioners in the outboard front seat positions, 2-point lap belts in the center front and rear seat positions
Passive Restraints:	Driver side and passenger side air bags which deployed during the first impact sequence with Vehicle #2
Defects:	None
Tow Status:	Towed due to damage

Vehicle #2	
Description:	1994 Nissan Sentra XE, Limited Edition, 4 door sedan
V.I.N.:	1N4EB31F3RC (Serial # omitted)

Color:	Black
Odometer:	18,867 km (11,724 miles)
Engine:	1.4 L
Transmission:	3 speed automatic
Steering:	Power steering
Brakes:	Power assisted front disc and rear drum brakes
Padding:	Upper and mid instrument panel, soft edge steering wheel rim and air bag module cover, center console arm rest, door panels, door arm rests, seats, roof liner, and sunvisors
Active Restraints:	Two lap belts in the front seat outboard seat positions and center rear seat position, 3-point lap and shoulder belts in the two rear outboard seat positions
Passive Restraints:	Motorized torso belts in the two outboard front seat positions and a driver side air bag which deployed during the first impact sequence with Vehicle #1
Defects:	None
Tow Status:	Towed due to damage

VEHICLE DAMAGE

Vehicle #1 - Exterior:

Direct contact damage to Vehicle #1 involved the right side as the result of contact by the frontal plane of the Vehicle #2 (refer to photographs #21-#27 on pages A-11 through A-14). Direct contact damage began at the right front fender in the over the right front tire and extended rearward 264.2 cm (104.0") where ended 36.8 cm (14.5") forward of the right rear axle. The total direct and induced length of deformation was 278.1 cm (109.5"). The maximum crush of 24.5 cm (9.25") was located 215.9 cm (85.0") forward of the right rear axle and 48.3 cm (19.0") above ground level.

Crush values for Vehicle #1 are listed below:

Impact #1, Mid door level	C ₁ = 0.6 cm (0.25") C ₂ = 8.9 cm (3.5") C ₃ = 12.1 cm (4.75")	C ₄ = 12.7 cm (5.0") C ₅ = 7.6 cm (3.0") C ₆ = 1.9 cm (0.75")
Sill level	C ₁ = 4.8 cm (1.9") C ₂ = 14.3 cm (5.6") C ₃ = 19.4 cm (7.6")	C ₄ = 18.7 cm (7.4") C ₅ = 3.5 cm (1.4") C ₆ = 0

Components damaged in the crash included the right front headlight assembly, the grille assembly, the right front fender, the right front wheel, the right front and right rear doors, the right rear fender, the lower A-pillar, lower B-pillar, the roof, and the windshield. The right wheelbase was reduced by 1.5 cm (0.6").

CDC: The assigned CDC for Vehicle #1 was 01-RYEW-3.

Vehicle #1 - Interior:

Interior damage to the 1995 Volvo 940 was associated with the air bag deployment, contact by the driver, and intrusion from the impact with Vehicle #2. The driver side air bag module cover opened along the designed tear seam lines in the typical "H" configuration deployment pattern. A scuff mark measuring 2.5 cm (1.0") laterally and 3.8 cm (1.5") vertically was noted on the air bag module cover (refer to photographs #31, #33 on pages A-16, A-17). This was attributed to contact by the driver's right forearm during the air bag deployment sequence. Red lip stick and natural color facial foundation cosmetic transfers were noted on the driver side air bag located along the right side and upper left quadrant of the air bag which were attributed to contact by the driver's facial area (refer to photograph #38 on page A-19).

There was a heavy whitish powder transfer along the lower edge of the mid instrument panel which measured 7.0 cm (2.75") wide and located 52.7 cm (20.75") left of the vehicle centerline (refer to photographs #35, #36 on page A-18). The driver did not suffer any injury of the left arm or left leg which could have been attributed to this contact. The knee bolster did not show any signs of driver contact evidence. Visually, the steering column did not appear to have been displaced.

The windshield glazing exhibited a fracture pattern which was consistent with contact by the passenger side air bag module flap during the SRS deployment sequence. It measure 25.4 cm (10.0") laterally and was located 19.1 cm (7.5") right of the vehicle centerline and 19.1 cm (7.5") above the instrument panel. The rearview mirror was rotated in a clockwise direction.

The driver's seat was positioned 3.8 cm (1.5") from the full rear adjustment position at the time of the inspection. Given the driver's short stature of 161.3 cm (63.5"), the seat was moved 17.8 cm (7.0") forward to the full forward position. The distance from the air bag module cover to the seat back support in this position measured 40.6 cm (16.0") at a height of 43.2 cm (17.0") above the junction of the seat cushion with the seat back support. The seat back angle measured 11 degrees rearward of vertical. The leading edge of the seat cushion measured 30.5 cm (12.0") above the floor. The steering column was fixed with a measured angled of 31 degrees above horizontal.

The passenger side air bag module cover was a transitional mount design where the longitudinal length of the top surface measured 11.4 cm (4.5") and the vertical surface measured 6.4 cm (2.5"). The vertical surface was heavily abraded as the result of contact with the windshield during the deployment sequence (refer to photograph #49 on page A-25). The nontethered passenger side air bag was not damaged during the crash.

The right side interior sustained intrusion at the right door side surfaces, the door sills/floor, the right front seat, and the right lower B-pillar. The doors were intruded a measured distance of 10.2 cm while the sill had a maximum intrusion of 11.4 cm (4.5") which was located below the bottom edge of the right rear door. The lower B-pillar was intruded 7.6 cm (3.0") at the floor pan (refer to photograph #52 on page A-26).

The driver was properly wearing the manual lap and torso belt at the time of the crash. The front outboard restraint belts were augmented with restraint belt pretensioners which actuated during the crash sequence. The driver side torso belt was retracted at the time of inspection with a small amount of slack in the belt system. The belt spooling mechanism was locked and prohibited belt spool out during the inspection. The right front restraint belt was also in a full retracted position, however, the belt was spooled tight with no slack obtainable during unspooling efforts.

Vehicle #2 - Exterior

The right frontal plane of the Vehicle #2 contacted the right side plane of Vehicle #1. Direct contact along the bumper measured 52.1 cm (20.5") and was located 12.7 cm (5.0") right of the vehicle centerline (refer to photographs #72-#74 on pages A-36, A-37). The total length of direct and induced damage measured 105.4 cm (41.5"). The vehicle was dismantled at the time of inspection, however, crush values were derived using the displacement of the frame rails with respect to the overall longitudinal reference line. These values were subsequently adjusted for free space using the contour of the front bumper which resulted in the following C dimensions:

Crush Values	$C_1 = 2.2 \text{ cm (0.9")}$	$C_4 = 0.6 \text{ cm (0.25")}$
	$C_2 = 0$	$C_5 = 4.4 \text{ cm (1.75")}$
	$C_3 = 0$	$C_6 = 12.4 \text{ cm (4.9")}$

Components damaged in the crash included the front bumper, the front headlight assemblies, the grille, the radiator, the hood, and the right front fender (refer to photographs #69 - #76, #81-82 on pages A-35 through A-38, A-41). The right wheelbase remained unchanged.

CDC: The assigned CDC for Vehicle #2 was 11-FREW-1.

Repair Cost: The collision shop estimated repairs at \$6,800. The vehicle was under repair at the time of the inspection.

Vehicle #2 - Interior

Interior damage to Vehicle #2 was associated with contacts by the driver and the air bag deployment sequence. The driver side air bag module cover opened along the designed tear seam lines in the typical "H" configuration deployment pattern. There was no driver contact evidence visible on the air bag module flaps (refer to photograph #86 on page A-43).

A red lipstick transfer mark was noted on the driver side air bag which was attributed to contact by the driver's facial area (refer to photograph #89-#91 on page A-45, A-46). The transfers

were concentrated in an area measuring 5.1 cm (2.0") by 3.2 mm (0.125") and located 3.0 cm (1.125") above the center of the air bag.

A fluid spray was noted to the upper right A-pillar. This may have been deposited during the crash sequence from an open soda container as the general condition of the interior appeared clean.

The driver seat was located 17.8 cm (7.0") rear of the full forward position which was 3.8 cm (1.5") forward of the full rear position. At this setting, the seat back support measured 58.4 cm (23.0") rearward of the air bag module cover at a height of 52.1 cm (20.5") above the junction with the seat cushion. The seat back support angle measured 17 degrees rearward from vertical.

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Vehicle #1

The dual front air bag supplemental restraint systems (SRS) deployed as the result of the crash with Vehicle #2. The system deployed appropriately although the longitudinal component of the delta V value of -11.0 km/h (-7.0 mph) as computed by the SMASH speed reconstruction program was considered a lower boundary for SRS actuation.

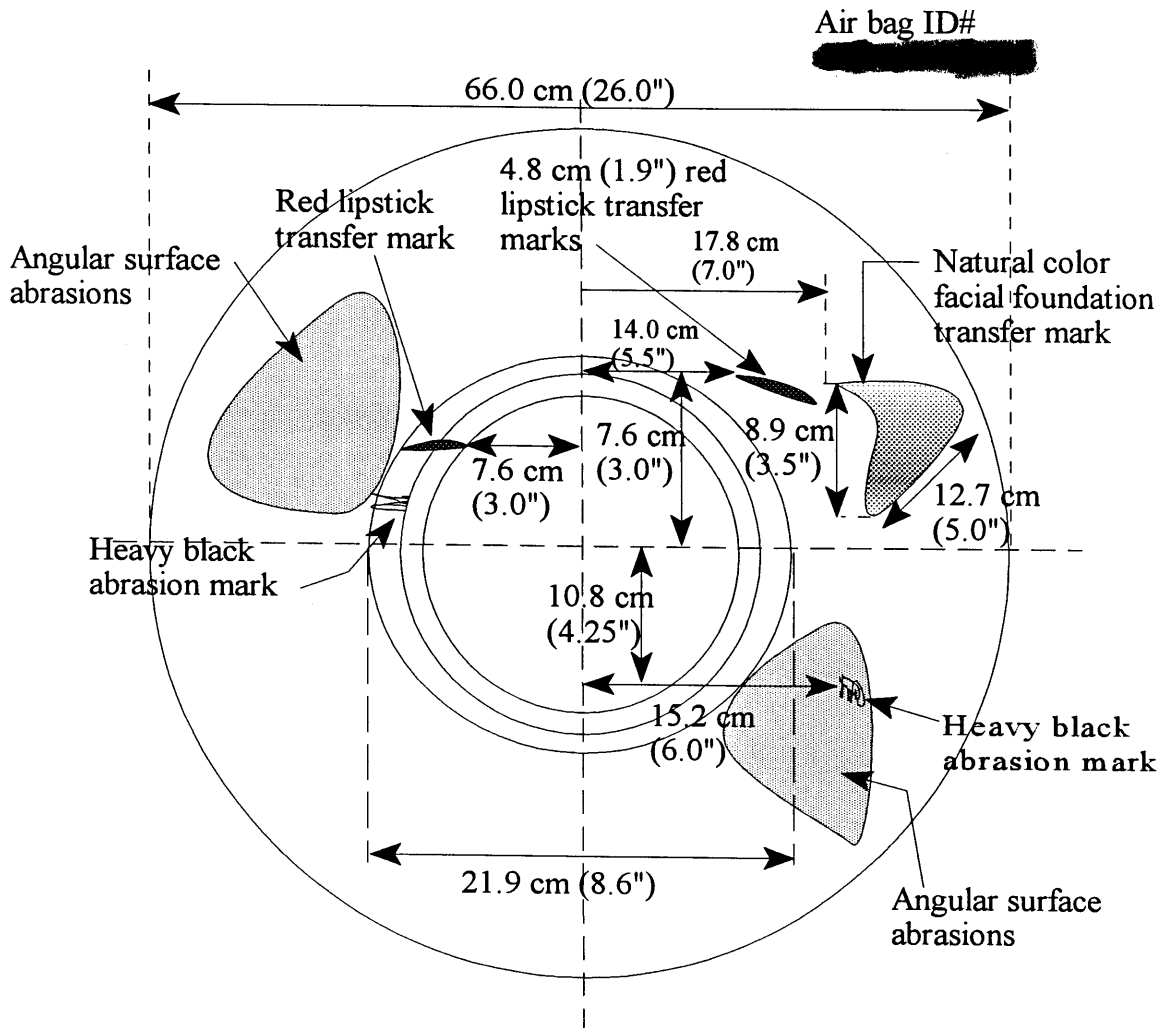
The driver side air bag module cover opened along the designed tear seam lines in the typical "H" configuration deployment pattern. The upper air bag module flap measured 17.1 cm (6.75") laterally and 6.4 cm (2.5") vertically. The vertical dimension of the lower flap measured 5.1 cm (2.0") while the lateral dimension was consistent with the upper flap width. The flap thickness measured 6.4 mm (0.25").

A scuff mark measuring 2.5 cm (1.0") wide and 1.3 cm (0.5) long was noted on the bottom edge of the upper flap of the air bag module cover and 6.4 cm (2.5") right of the left vertical flap edge. The scuff mark continued 2.5 cm (1.0") vertically onto the lower flap (refer to photographs #31, #33 on pages A-16, A-17). This was attributed to contact with the driver's right forearm during the air bag deployment sequence. The driver indicated she normally places her hands on the steering wheel rim in the three o'clock and nine o'clock positions. The position of the driver's right forearm across the air bag module cover was consistent with the attempted left turn maneuver where the steering wheel would have been rotated to the ten o'clock sector.

The driver side air bag was designed with four tethers and two 2.5 cm (1.0") diameter vent ports located 20.3 cm (8.0") apart and 19.1 cm (7.5") below the 12 o'clock position on the back surface of the air bag. The diameter of the air bag measured 66.0 cm (26.0") with a 21.9 cm (8.6") diameter stitched "target" area. The following identification number was stamped on the air bag near the perimeter: [REDACTED]

During the air bag deployment sequence, the expanding driver side air bag contacted her arm and propelled it to the right. Simultaneous with this interaction, the driver's facial area was in close proximity of the expanding air bag which resulted in a scattered cosmetic transfer pattern on the air bag. Red lipstick and natural color facial foundation cosmetic transfers noted in the right side of the

air bag were separated from red cosmetic transfers in the upper quadrant of the air bag by a distance of 21.6 cm (8.5") quadrant. This pattern indicated the driver's facial area was in contact with the air bag while the air bag was undergoing the unfolding and expansion process. The driver sustained abrasions of the chin, nose, right lip area, and undersurface of the neck which were attributed to the air bag contact.



Vehicle #1- Contact Evidence on Driver Side Tethered Air Bag

Vehicle #2

Vehicle #2 was equipped with a driver side only supplemental restraint system (SRS) which deployed as the result of the crash with Vehicle #1. The system deployed appropriately with the longitudinal component of the delta V value of -15.0 km/h (-9.0 mph) as computed by the SMASH speed reconstruction program within the normal deployment threshold range for SRS actuation.

The driver side air bag module cover opened along the designed tear seam lines in the typical "H" configuration deployment pattern (refer to photograph #86 on page A-43). The upper air bag module flap measured 10.8 cm (4.25") vertically and the lower measured 5.1 cm (2.0"). The lateral dimension for both flaps was 14.3 cm (5.6"). The flap thickness measured 6.4 mm (0.25"). There was no evidence of driver contact.

The air bag measured 71.1 cm (28.0") in diameter and was equipped with four tethers. There were two 3.8 cm (1.5") diameter vent ports located in the 11 o'clock and 1 o'clock orientation which were 16.5 cm (6.5") apart and 17.8 cm (7.0") below the perimeter of the air bag. The air bag identification number was recorded as follows: ANC1C271.

There was a 5.1 cm (2.0") long 3.1 mm (0.125") wide lipstick transfer located 2.9 cm (1.1") above the center of the air bag and 1.9 cm (0.8") left of the air bag centerline (refer to photographs #89-#91 on pages A-45, A-46). Adjacent to this transfer was a parallel red lipstick pattern which measured 9.5 mm (0.375") in height. These transfers were attributed to contact by the Driver #2's face when the air bag was fully inflated.

VEHICLE VELOCITY ESTIMATES

	Vehicle #1	Vehicle #2
Total ΔV :	13.0 km/h (8.0 mph)	18.0 km/h (11.0 mph)
Longitudinal ΔV :	-11.0 km/h (-7.0 mph)	-15.0 km/h (-9.0 mph)
Lateral ΔV :	-6.0 km/h (-4.0 mph)	9.0 km/h (5.0 mph)
Energy Absorption:	37,276 joules (27,490 ft-lb)	6,436 joules (4,747 ft-lb)

The velocity changes were computed by the damage algorithms of the SMASH program.

COLLISION SEQUENCE

Pre-Crash:

The driver of the 1995 Volvo 940 (Vehicle #1) was en route from early evening religious services to her residence. The driver reportedly had the windshield wipers activated due to the ambient snow conditions. She traveled approximately 0.4 km (0.25 mile) in the left eastbound travel lane when she entered the dedicated left turn lane at the four leg intersection. The intersection was

controlled by a traffic light which was augmented by a green left turn arrow that cycled on and off through a pavement mounted vehicle presence sensor loop. When the turn arrow was in the off mode, traffic movement was controlled by the main traffic light cluster which had the normal three color display.

Driver #1 proceeded to make a left turn with the intention of proceeding northbound. She #1 was unaware of Vehicle #2's approach which was traveling westbound in the second through travel lane from the north curb. She was under the impression that all the traffic had stopped and that the way was clear for her to proceed through the turn.

Driver #1 was wearing the available manual lap and shoulder belt. The driver described her seat as being in a forward position and hands were positioned on the steering wheel rim in the 3 o'clock and 9 o'clock positions. As she was initiating the left turning, her right forearm moved toward the left and was positioned over the air bag module cover at the time of the crash..

As Vehicle #2 approached the intersection, Driver #2 applied the brakes which resulted in the downward pithing of the vehicle. This was noted by the low damage pattern along the lower right side of Vehicle #1.

Crash:

The right front plane of Vehicle #2 struck the right front fender of Vehicle #1. The direct contact pattern on Vehicle #1 extended 264.2 cm (104.0") along the right side plane and ended 36.8 cm (14.5") forward of the right rear axle. Direct contact damage on Vehicle #2 began at the right front bumper corner and extended 52.1 cm (20.5") to the left. The SMASH speed reconstruction program computed the delta V for Vehicle #1 as 13.0 km/h (8.0 mph) and 18.0 km/h (11.0 mph) for Vehicle #2. This impact initiated the SRS deployment sequence in both vehicles.

Driver #1 was steering to the left which placed her right forearm over the air bag module cover at the time of the SRS deployment cycle. The interaction between the driver side air bag module cover and expanding air bag resulted in a comminuted fracture of the radius and ulna. The driver's face was subsequently contacted by the expanding air bag resulting in abrasions of the face and heavy cosmetic transfers on the air bag surface.

Driver #2 was using the manual lap and shoulder belt at the time of the crash. Her seat was adjusted in the mid to rear track position. She came in contact with the driver side air bag after it was fully inflated which was noted by the red lipstick transfer marks noted near the center of the air bag. She was not injured in the crash.

Vehicle #1 rotated in a counterclockwise direction while Vehicle #2 rotated in a clockwise direction. Both vehicles remained on the roadway at the final rest position.

Post Crash:

Final Rest - Vehicle #1 came to an estimated final rest position (FRP) adjacent to north intersection boundary facing in a northerly direction. Driver #1 then moved her vehicle to the east shoulder of the northbound intersecting roadway. Vehicle #2 came to the FRP facing in a north

westerly direction within the intersection boundary.

Driver Activities - The driver of Vehicle #1 remained in her vehicle pending the arrival of rescue. She had extreme pain in her right forearm and a ringing in her ears which she described as a vacuum cleaner noise where sounds appeared muffled. This condition reportedly lasted for three days following the crash. Driver #1 indicated she was aware of smoke in the vehicle interior, but was not bothered by its presence. A resident near the crash site came to Driver #1's assistance and then placed a call to the 911 emergency hotline.

The driver of Vehicle #2 exited her vehicle under her own power through the driver's door.

Police Activities - The local police department arrived within five minutes of the crash. Neither driver was issued a citation for any traffic infraction.

Rescue Activities - The volunteer fire department arrived within minutes of the crash. Driver #1 indicated the EMTs followed appropriate first aid protocol. The EMT's initial diagnosis was a possible fracture of the right wrist. She was placed on a backboard with a soft cervical collar applied and her right forearm immobilized. She was transported via ambulance 0.4 km (0.25 mile) to a local medical treatment facility where she arrived thirty minutes after crash notification. She was treated for a fracture of the right forearm and subsequently released. Two days later she was re-admitted for surgical procedures to repair the fractures of the right forearm.

Driver #2 was not transported to a medical facility.

Scene Clearance - Both vehicles were towed by a local towing service from the scene to a collision repair shop where repair was already initiated on Vehicle #2 at the time of inspection.

HUMAN FACTORS/OCCUPANT DATA

Driver of Vehicle #1	
Age/Sex:	70 year old female
Height:	161.3 cm (63.5"),
Weight:	59.9 kg (132.0 lb.)
Manual Restraint System Usage:	Three point lap and torso restraint belt with a torso belt pretensioner
Usage Source:	Vehicle inspection, police report, interviewee, EMT report
Eyewear:	Contact lenses

Jewelry	A ring on the fourth and fifth digit of the right hand, three bracelets on the right wrist, a ring set on the fourth digit of the left hand, three bracelets and a watch on the left wrist
Vehicle Familiarity:	Primary driver of vehicle
Route Familiarity:	Very familiar
Trip Plan:	En route home from religious services
Type of Medical Treatment:	Treated and released with an ambulatory admit two days later

INJURY DATA

Following the crash, the Driver #1 was transported to a medical facility via ambulance where she was evaluated for a fractures of the right ulna and radius. A closed reduction of the fractures was performed and a cast applied. She was released and advised to contact the hospital within the following week for a review of her condition. She returned two days later and was admitted for open reduction of the right ulna and radius. She was discharged two days later. The following table identifies the type of injury, the related AIS-90 injury code, and the injury source.

DRIVER #1 INJURIES	INJURY SEVERITY AIS-90	INJURY SOURCE
1. Displaced comminuted fracture of the distal third of the right radius and ulna	752804.31 753204.31	Driver side air bag module cover and air bag
Supplemental discussion The ulna fracture was approximately 2 cm from the end and had comminution. The radius fracture was slightly more proximal to this and had extensive comminution. Open surgical reduction was performed where a 7-hole 3.5 mm DC plate was inserted and attached to the radius. A one eighth inch Rush rod was inserted and helped stabilize the ulna fracture site.		
2. Small abrasion of the right nostril, right lip area, and chin	290202.14 290202.18	Driver side air bag
3. Abrasion of the undersurface of the neck	390202.15	Driver side air bag
4. Ecchymosis of the right wrist	790402.11	Driver side air bag module cover and air bag

OCCUPANT KINEMATICS

Driver #1 was restrained properly by the manual three point lap and torso restraint belt which was equipped with a pretensioner at the time of the crash. She described her seat adjustment position near the full forward track position. The seat was observed in a rear adjusted position at the time of inspection which apparently was moved from its at crash position. With the seat adjusted to the full forward position, the distance from the air bag module cover to the seat back support measured 40.6 cm (16.0") at a height of 43.2 cm (17.0") above the junction of the seat cushion with the seat back support. The seat back angle measured 11 degrees rearward of vertical.

Driver #1 indicated that her hands were gripping the steering wheel rim in the three o'clock and nine o'clock positions at the time of the crash. She was attempting a left turn maneuver at a four leg intersection which placed her right forearm over the driver air bag module cover at the time of the SRS deployment cycle.

The longitudinal delta V of 11.0 km/h (7.0 mph) was considered a low end threshold range for the SRS deployment initiation and may have resulted in a late air bag deployment sequence. As a result, the upper torso of the closely positioned driver moved forward and was in close proximity to the air bag module at the time of the SRS actuation.

As the driver side air bag began to expand, the air bag module cover opened normally along the designed tear seam lines. The upper and lower air bag module flaps contacted the driver's right forearm resulting in the comminuted fracture of the radius and ulna. Contact evidence on the air bag module flaps by the driver's right forearm was noted by a scuff mark measuring 2.5 cm (1.0") laterally and 1.3 cm (0.5") vertically which continued 2.5 cm (1.0") vertically onto the lower flap (refer to photographs #31, #33 on pages A-16, A-17). The driver's right arm was then propelled upward and to the right.

The driver's face and neck came in contact with the expanding driver side air bag as noted by the heavy facial cosmetic transfers (i.e., red lipstick and natural color facial foundation) noted on the right side and upper left area of the air bag. This contact mechanism resulted in abrasions of the driver's nose, lip, chin, and undersurface of the neck.

Driver #1 came to rest in the driver's seat positioned in an upright posture. She had pain in the right arm and ringing in her ears. She remained in the vehicle until rescue arrived where she was removed and placed on a back board.

Driver #2 was restrained by the passive torso belt and manual lap belt at the time of the crash. The driver moved forward in response to the crash forces and contacted the driver side air bag after it was fully deployed. This contact mechanism was noted by the red lipstick mark located in the center area of the air bag. The driver was not injured in the crash.



1. View of the eastbound pre-crash trajectory of the 1995 Volvo 940 (Vehicle #1) at 61 meters (200 ft.) prior to the point of impact (POI).



2. Pre-crash trajectory - 46 meters (150 ft.) prior to the POI.



3. Pre-crash trajectory - 30 meters (100 ft.) prior to the POI.



4. Pre-crash trajectory - 15 meters (50 ft.) prior to the POI.



5. Pre-crash trajectory of Vehicle #1 initiating a left turn from the left turn lane.



6. View of the POI.



7. Post crash trajectory toward final rest position (FRP) of Vehicle #1.



8. FRP of Vehicle #1.



9. Lookback view of Vehicle #1 from the FRP.



10. Lookback view of Vehicle #1 at 15 meters (50 ft.) from the POI.



11. View of the westbound pre-crash trajectory of the 1994 Nissan (Vehicle #2) at 61 meters (200 ft.) prior to the POI.



12. Pre-crash trajectory of Vehicle #2 - 30 meters (100 ft.) prior to the POI.



13. Pre-crash trajectory of Vehicle #2 - 15 meters (50 ft.) prior to the POI.



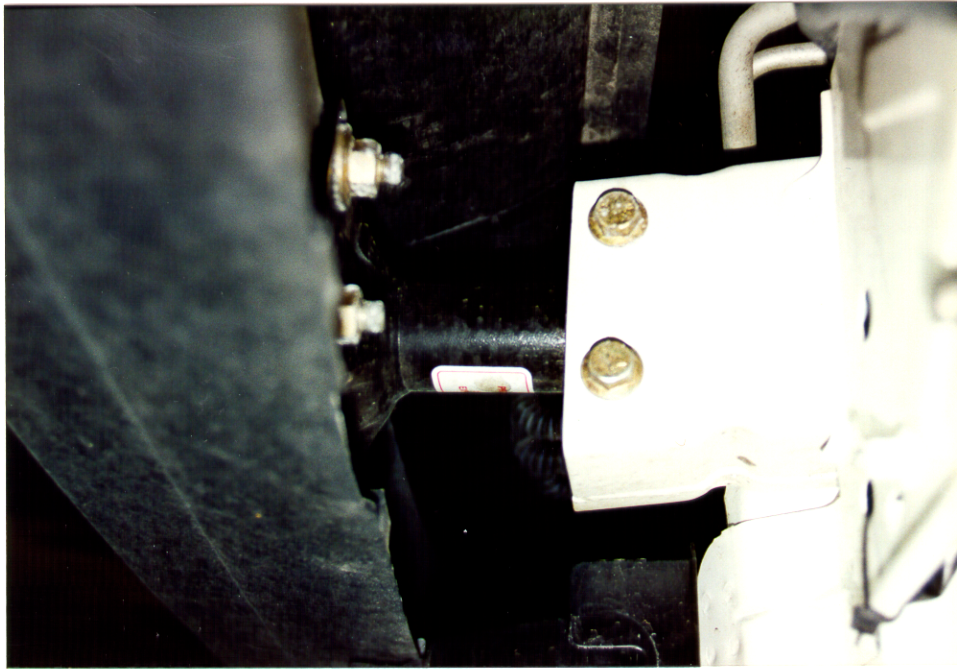
14. Overall view of the 1995 Volvo's frontal plane.



15. View of the right side of the windshield fractured by the passenger side air bag module cover.



16. Longitudinal view of the right side plane.



17. Close-up view of the right front bumper energy absorption device (EAD).



18. Longitudinal view of the left side plane.



19. Left front corner view.



20. Left rear corner view.



21. Right rear corner view.



22. View of the right side plane.



23. Close-up view of the damage to the right rear door.



24. Close-up view of the damage to the right front door panel.



25. View of the damage to the right front fender.



26. Angular view of the damage to the right side of Vehicle #1.



27. Right front corner view.



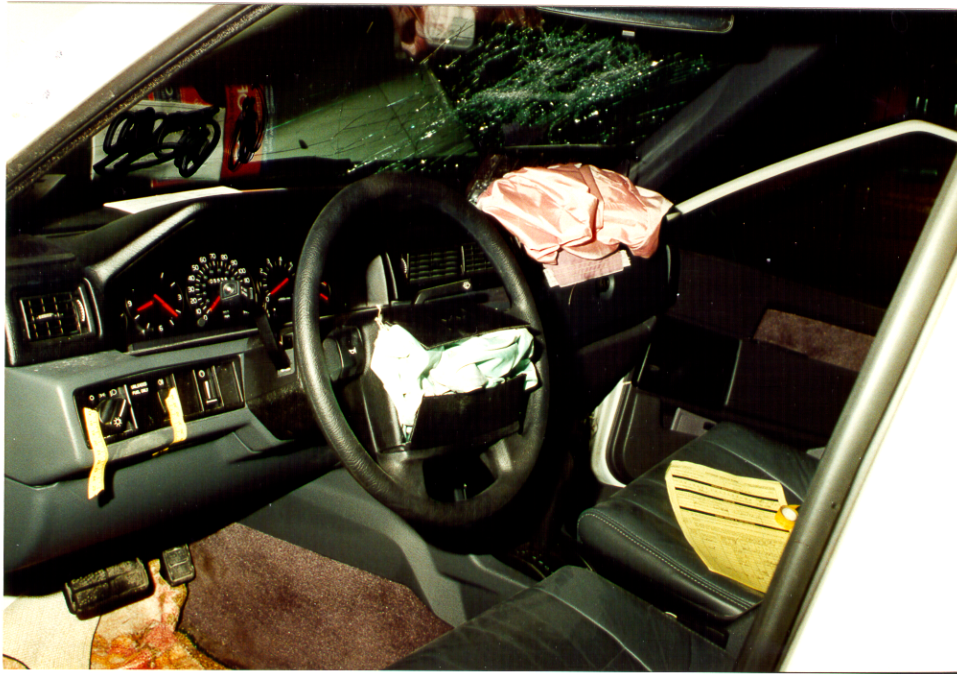
28. Lateral view from the left of the front seats and the deployed driver side air bag.



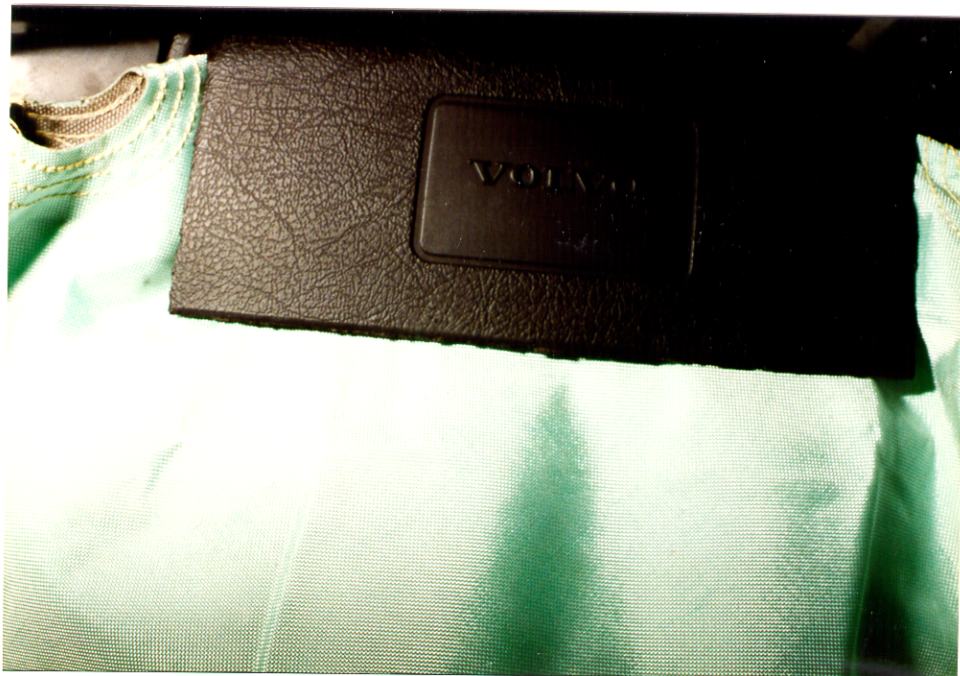
29. Close-up view of the intruded surface of the right lower rear door.



30. Close-up view of the right front door intrusion.



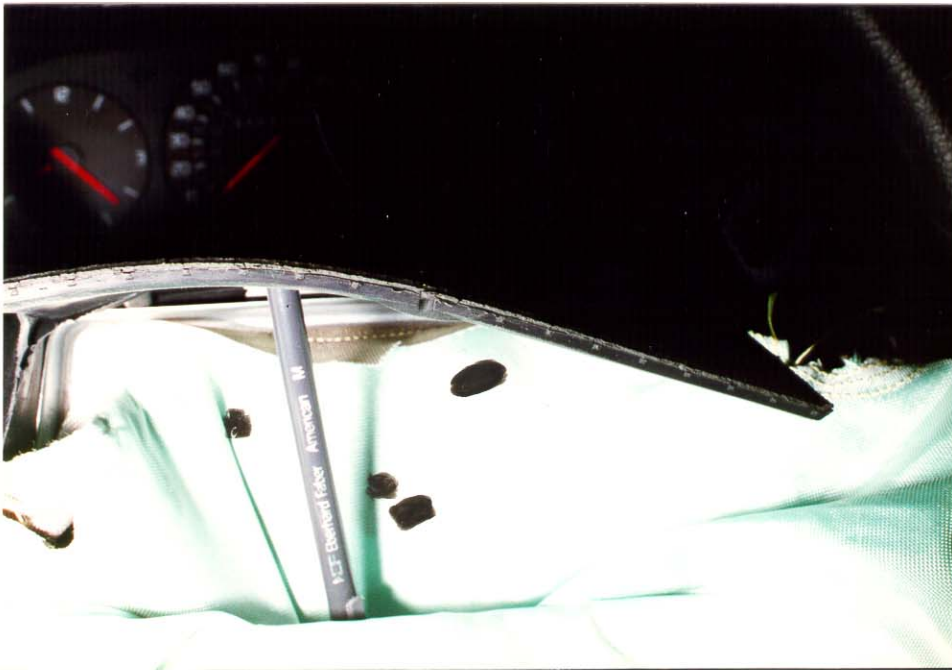
31. Angular view of the instrument panel, the steering wheel, and the deployed air bags with the bags placed back into the air bag module.



32. View of the driver side air bag module upper cover flap.



33. View of the driver side air bag module cover flaps.



34. View of the air bag module cover upper flap showing the the flap's thickness.



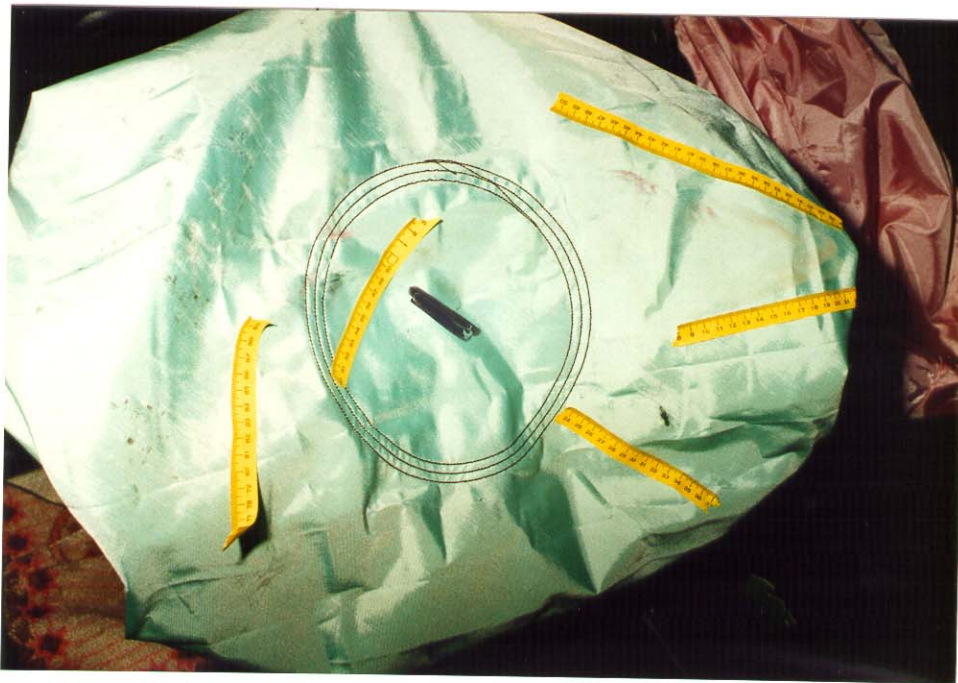
35. Overall view of the deployed driver side air bag.



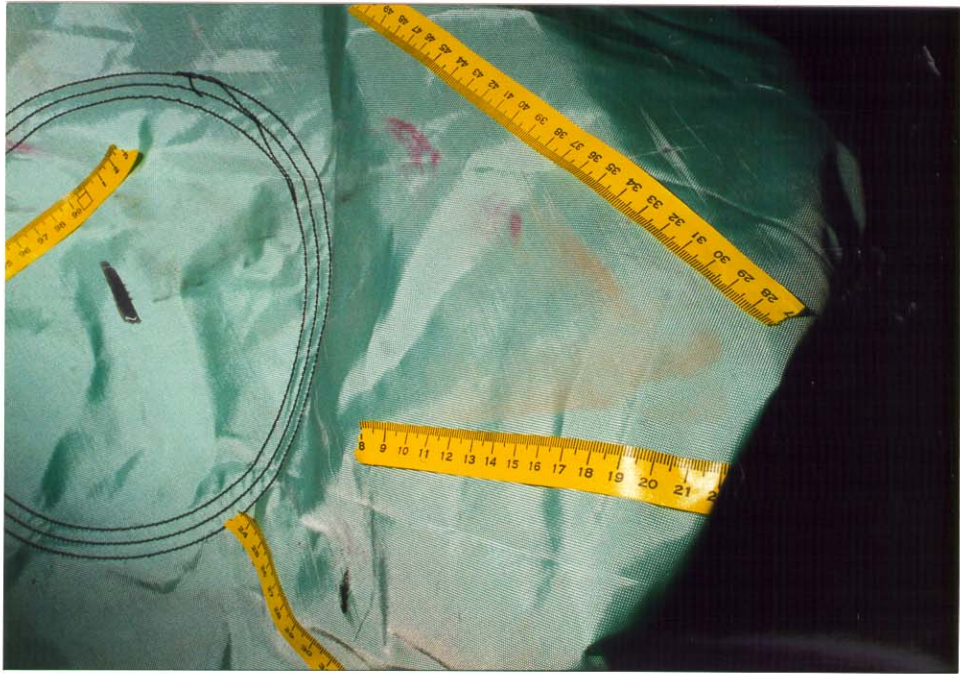
36. Heavy powder transfer located on the lower left instrument panel.



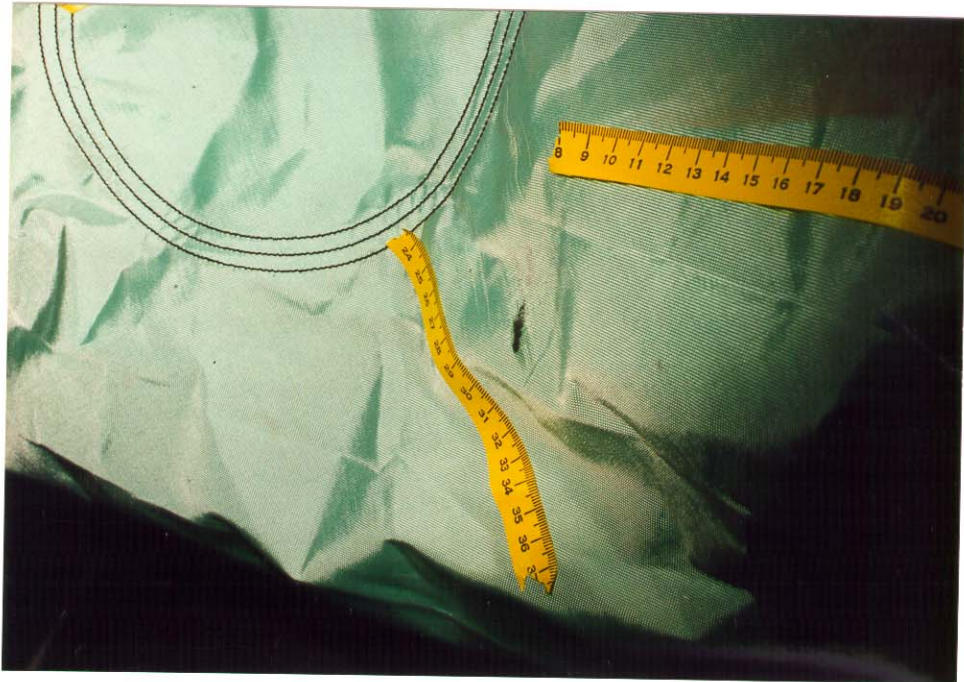
37. Vertical view of the deployed driver side air bag.



38. View of transfer evidence on the driver side air bag.



39. Close-up view of a large triangular natural color foundation cosmetic transfer mark on the 3 o'clock sector of the bag.



40. Heavily abraded area and a black transfer mark located on the lower right quadrant of the driver side air bag.



41. Close-up view of the abraded area and black transfer mark.



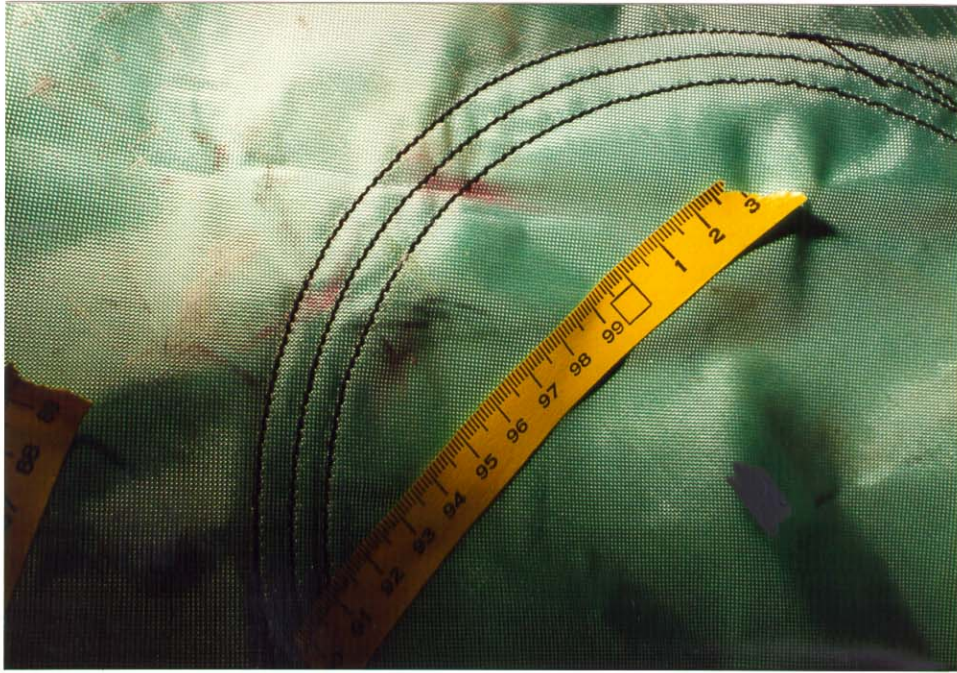
42. Large area of red transfer marks, angular surface abrasions, and lipstick transfers located on the upper left quadrant of the driver side air bag.



43. Close-up view of the red transfer marks.



44. Close-up view of the angular surface abrasions.



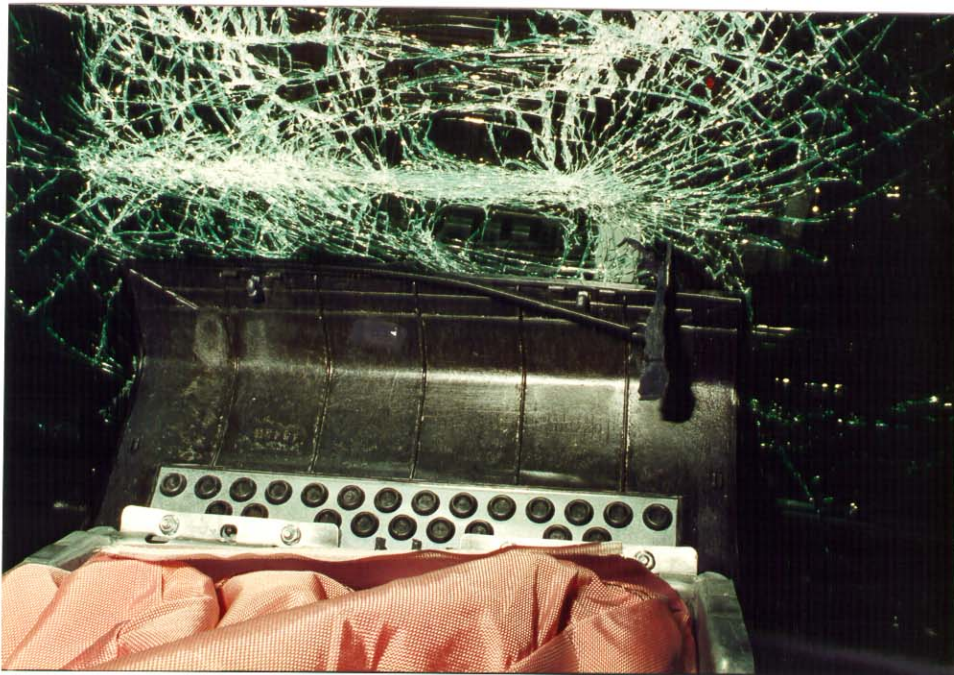
45. Close-up view of lipstick transfers.



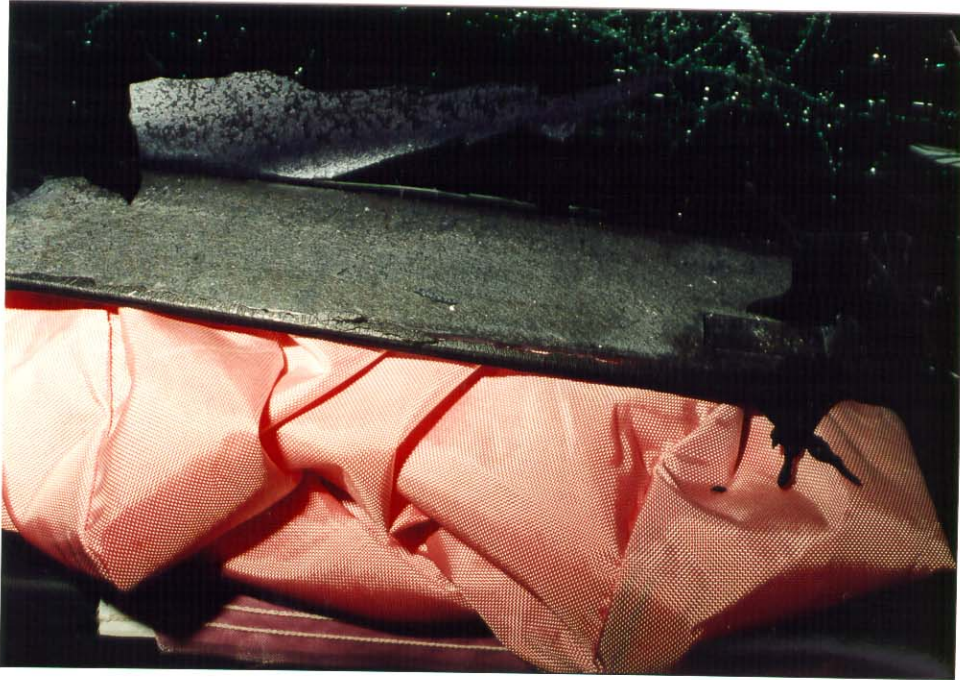
46. Vertical view of the center instrument panel and center console.



47. Vertical view of the passenger side air bag in an extended position, air bag module cover, instrument panel, and windshield.



48. View of the underside of the passenger side air bag module cover flap.



49. View of the top of the air bag module cover flap.



50. View of the right instrument panel.



51. Intrusion damage on the lower right front door area.



52. Overhead view of the extent of intrusion damage.



53. Lateral view from the right side showing the excursion of the passenger side air bag into the right front seat area.



54. Lateral view of the steering assembly.



55. Lateral view from the right side of the rear seated area.



56. Lateral view from the left of the intrusion at the lower right B-pillar area.



57. Overall view of Driver #1 showing garments worn at the time of the crash.



58. Close posterior view of the driver's right coat sleeve.



59. Anterior side view of the right hand and coat sleeve.



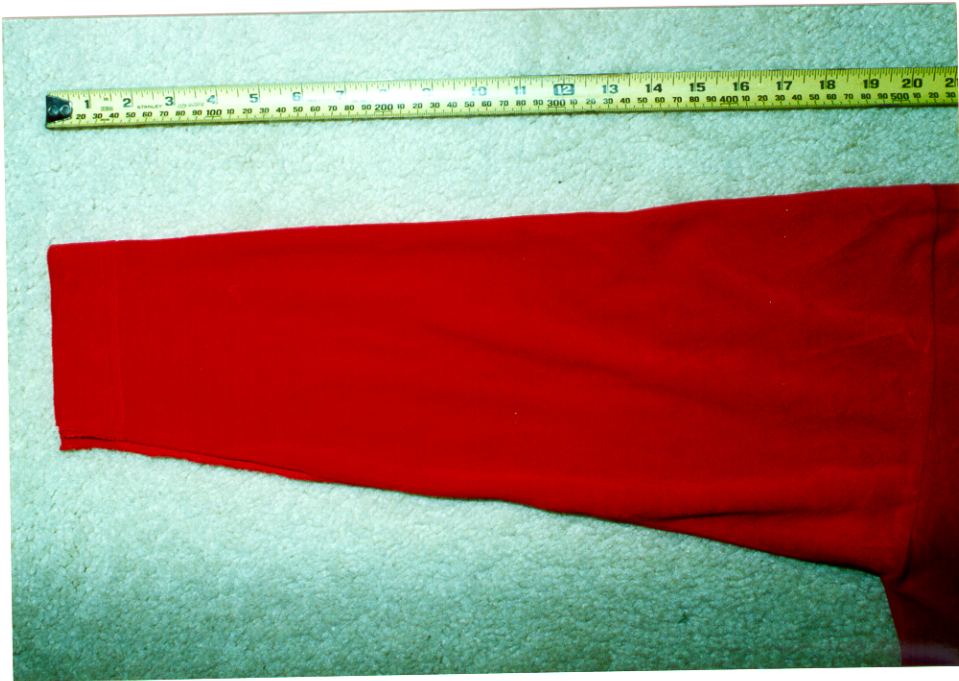
60. View of the rings worn on the right hand at the time of the crash.



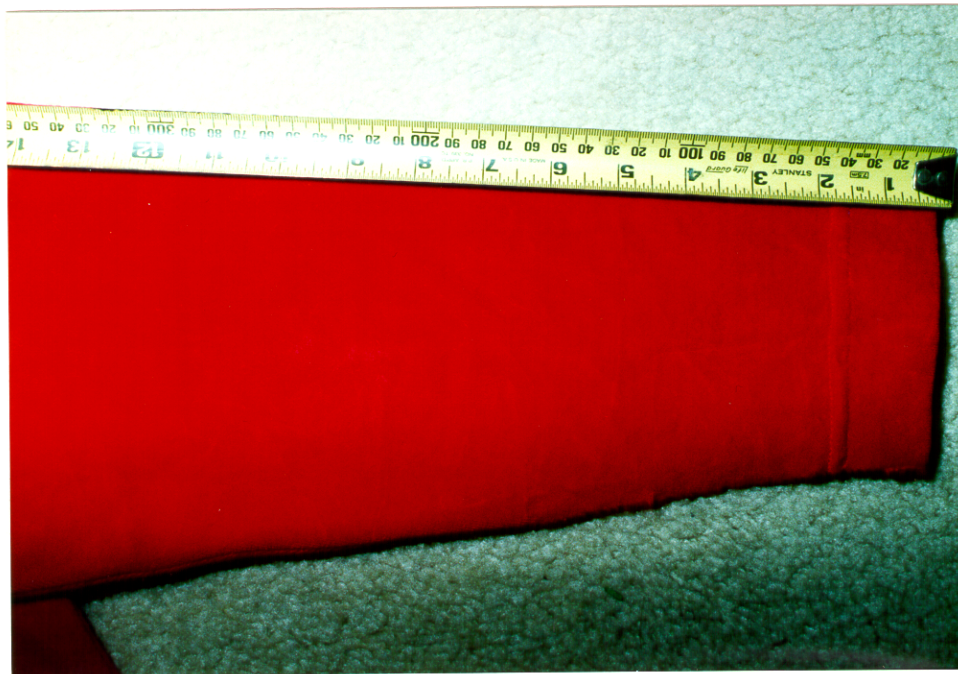
61. View of the jewelry worn on the left hand at the time of the crash.



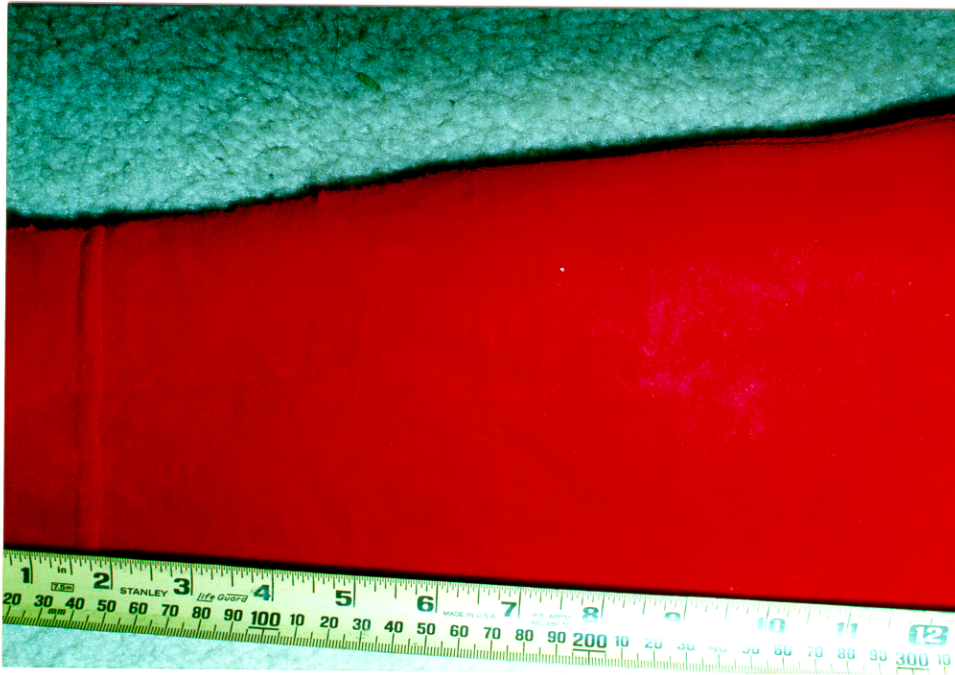
62. Long sleeve velour sweater worn by the driver at the time of the crash.



63. Anterior side of the velour sweater right sleeve.



64. View of the posterior aspect of the right sleeve.



65. Close-up view of abrasions on the posterior right sleeve.



66. View of the inner right wrist of Driver #1.



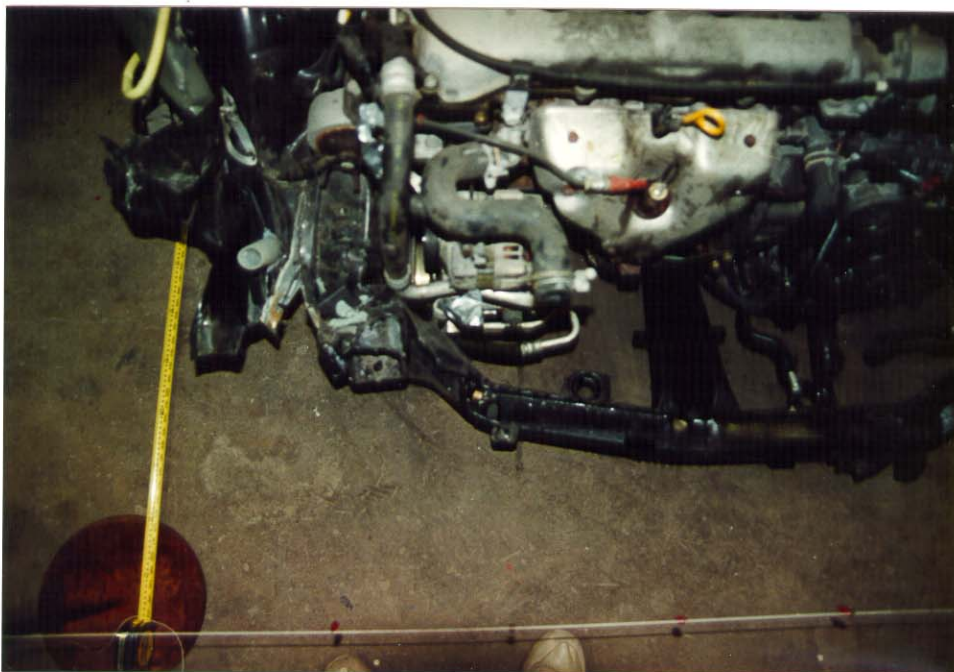
67. Close-up view of the right wrist injury.



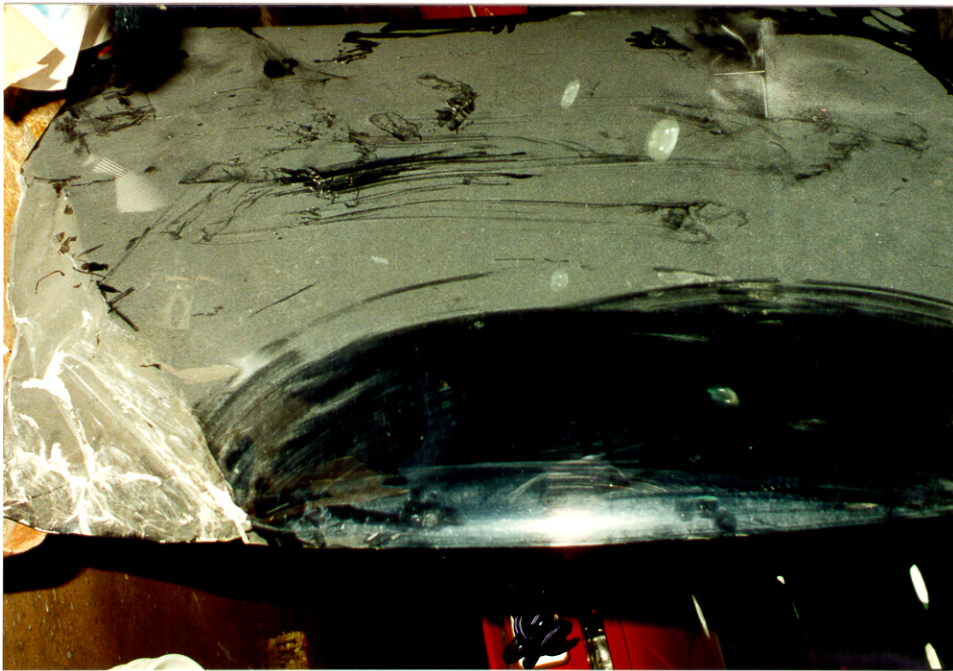
68. View of the right forearm of Driver #1.



69. Overall frontal view of the 1994 Nissan Sentra (Vehicle #2) with the front of the vehicle removed (vehicle under repair at time of inspection).



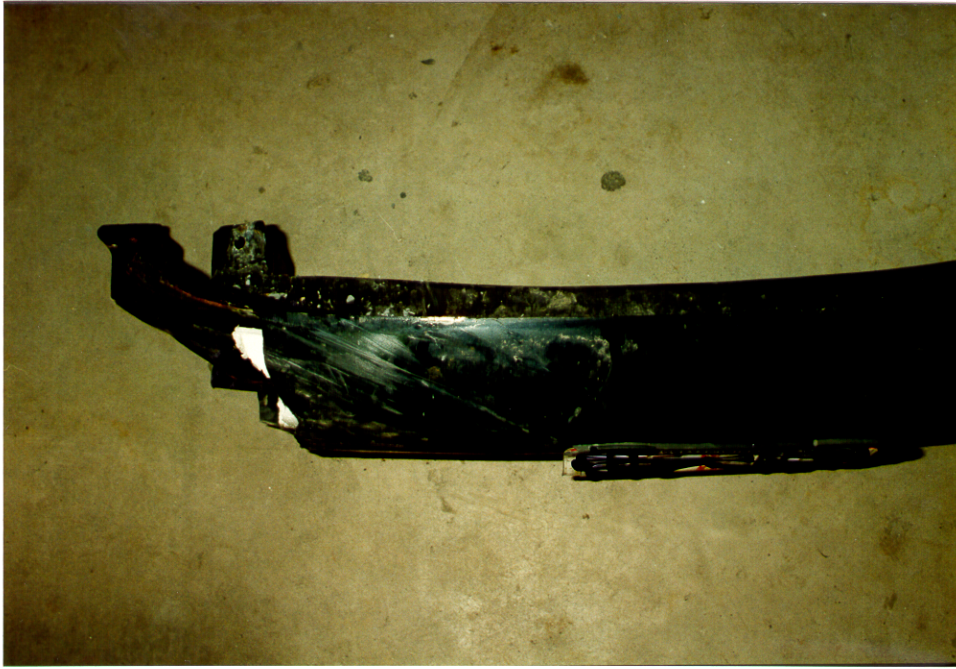
70. Overhead view of the left front corner of Vehicle #2.



71. View of the hood.



72. Overhead view of the front bumper.



73. Overhead view of the right side of the front bumper.

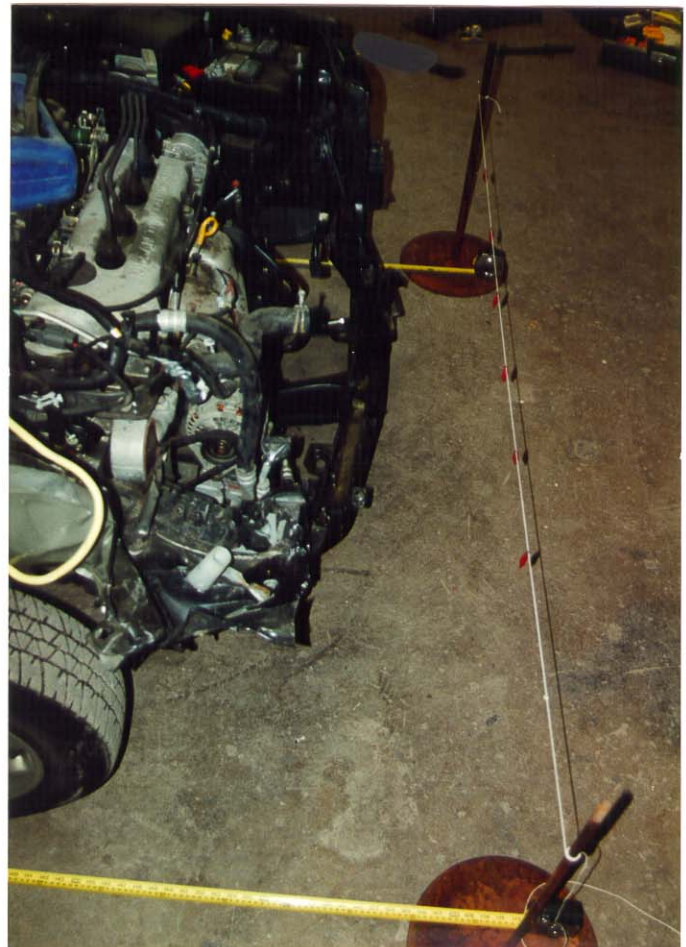


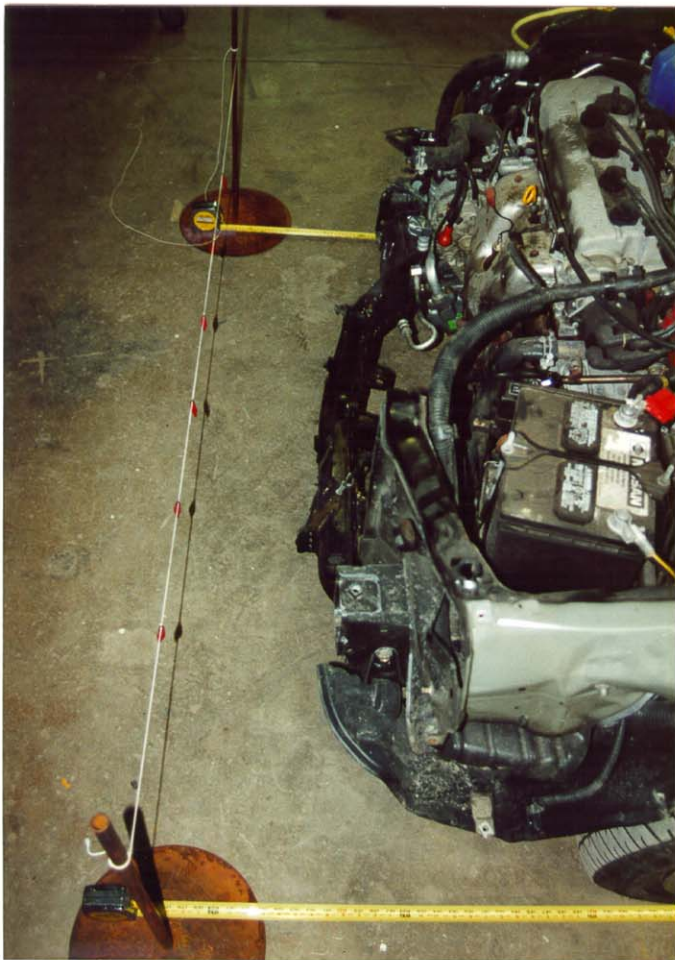
74. Frontal view of the right side of the front bumper.



75. Longitudinal view of the right side plane.

76. Lateral view from the right side showing the rearward displacement of the right front corner.





77. Lateral view from the left side showing the rearward displacement of the left front corner.



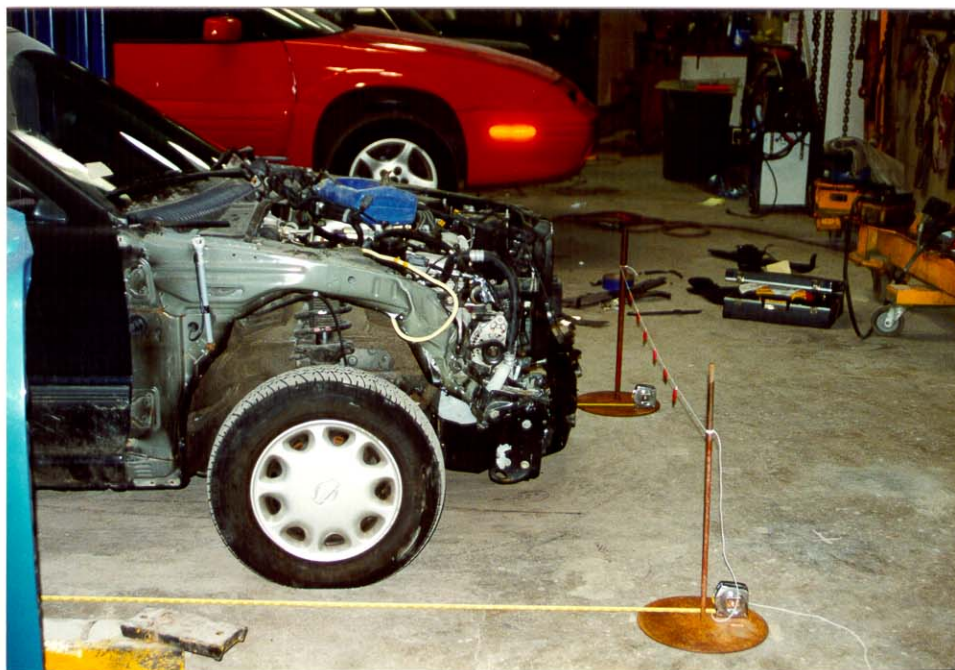
78. Left front corner view.



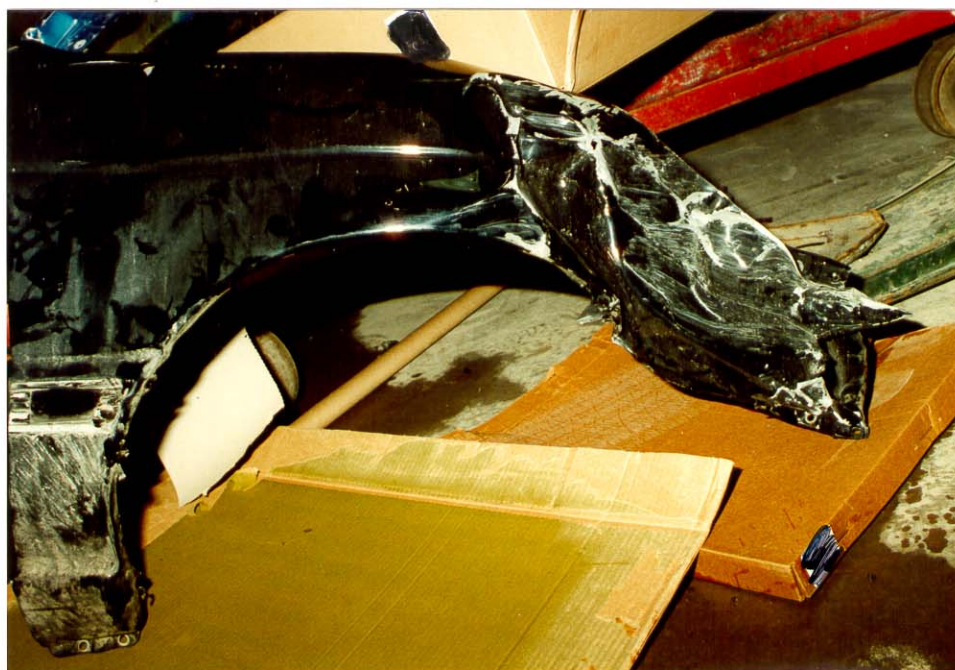
79. View of the left side plane.



80. Right rear corner view.



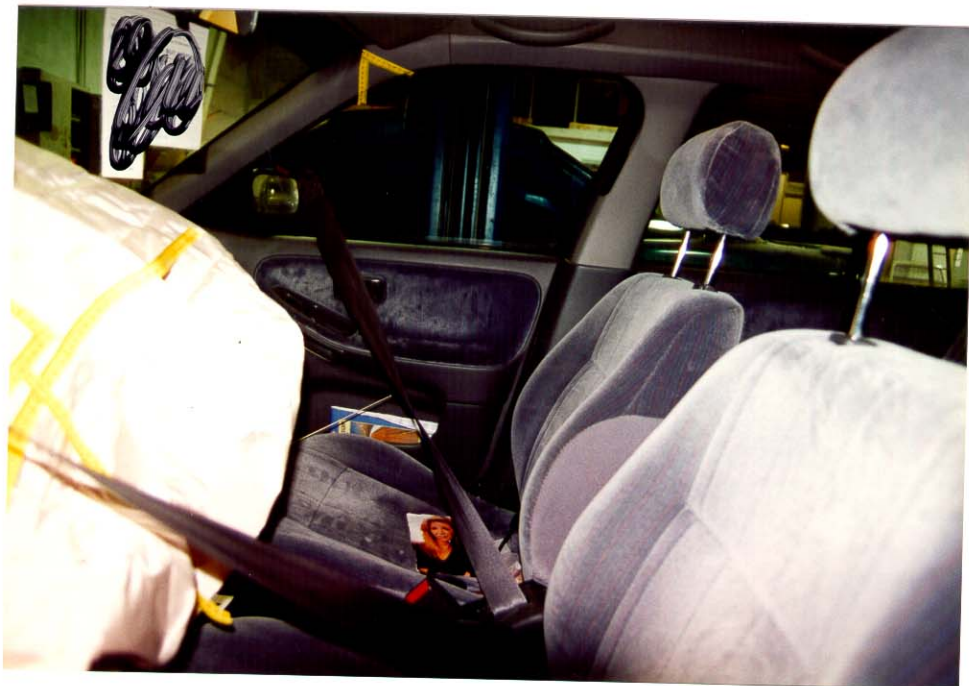
81. View of the right side with fender removed.



82. Right front fender.



83. Right front corner view.



84. Lateral view of the front seated area taken from the left side of the vehicle.



85. Angular view of the deployed driver side air bag.



86. View of the instrument panel and the air bag module flaps with the air bag placed back into the module.



87. View of the lower left instrument panel and the knee bolster.



88. Vertical view of the windshield, center and right instrument panel, and the deployed driver side air bag.



89. View of the deployed driver side air bag and the motorized automatic torso belt.



90. Location of a red lipstick transfer on the face of the air bag.



91. Close-up view of the lipstick transfer.



92. Vertical view of the right front passenger seat and the motorized torso belt.



93. Liquid residue (possible soda spray) on the upper A-pillar.



94. Angular view from the right side of the instrument panel and the knee bolster.



95. Lateral view from the right side of the front seat area of Vehicle #2.



96. Lateral view from the right side of the rear seat area.



97. Lateral view from the left side of the rear seat area.

Appendix B

SMASH Speed Reconstruction Program Output

Summary of Results Using Damage

SCI Case #CA96-05

Speed Change
(Damage)

Vehicle #1

Total 13 km/h (8 mph)
 Longitudinal -11 km/h (-7 mph)
 Latitudinal -6 km/h (-4 mph)
 PDOF Angle 30 ½
 Energy Dissipated = 37275 Joules (27489 Ft-Lb)
 Barrier Equivalent Speed = 23.2 km/h (14.4 mph)
 Calculated using crush coefficients entered by the user.

Vehicle #2

Total 18 km/h (11 mph)
 Longitudinal -15 km/h (-9 mph)
 Latitudinal 9 km/h (5 mph)
 PDOF Angle -30 ½
 Energy Dissipated = 6436 Joules (4747 Ft-Lb)
 Barrier Equivalent Speed = 7.9 km/h (4.9 mph)
 Calculated using crush coefficients entered by the user.

General Information

	Vehicle #1 áááááááááááá	Vehicle #2 áááááááááááá
Year	1995	1994
Make	Volvo	Nissan
Model	940	Sentra XE
CDC	01RYEW3	11FREW1
Side Damaged	R	F
PDOF Angle	30 ½	330 ½
Heading Angle	-30 ½	180 ½

Calculation method:	Vehicle's Crush Coeff.	Vehicle's Crush Coeff.
d0 crush coeff.	63.32 sqrt(N)	91.47 sqrt(N)
d1 crush coeff.	7.50 sqrt(N)/cm	6.80 sqrt(N)/cm

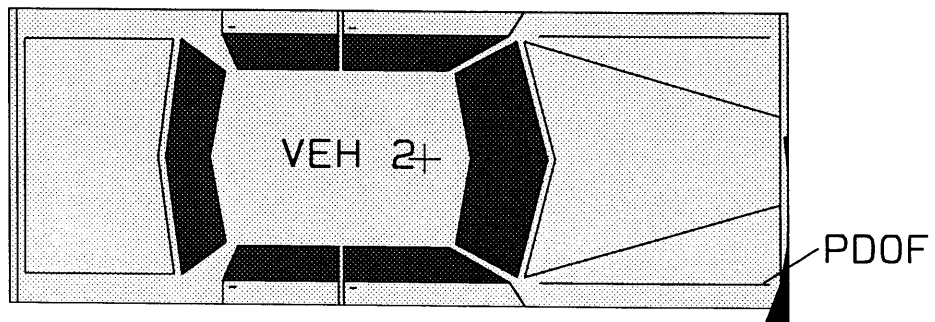
Damage Information

Vehicle Damage Known	Vehicle #1	Vehicle #2
	áááááááááááá Yes	áááááááááááá Yes
Crush Length	278.1 cm (109 in)	105.4 cm (41 in)
C1	4.8 cm (2 in)	2.2 cm (1 in)
C2	14.3 cm (6 in)	0.0 cm (0 in)
C3	19.4 cm (8 in)	0.0 cm (0 in)
C4	18.7 cm (7 in)	0.6 cm (0 in)
C5	7.6 cm (3 in)	4.4 cm (2 in)
C6	1.9 cm (1 in)	12.4 cm (5 in)
D	30.5 cm (12 in)	38.7 cm (15 in)
D'	18.6 cm (7 in)	69.5 cm (27 in)

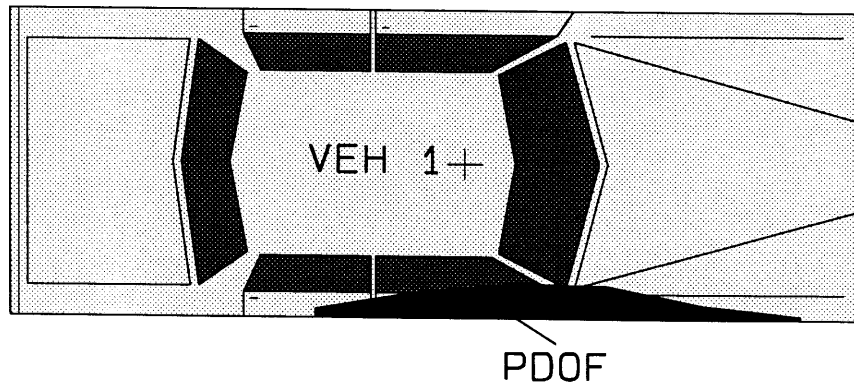
Vehicle Dimensions

	Vehicle #1	Vehicle #2
	áááááááááááá	áááááááááááá
Length	486.9 cm (192 in)	432.6 cm (170 in)
Width	176.0 cm (69 in)	167.0 cm (66 in)
Wheelbase	277.1 cm (109 in)	243.0 cm (96 in)
Weight	1515 kgs (3340 lbs)	1110 kgs (2447 lbs)
CG to Front of Veh	228.1 cm (90 in)	193.0 cm (76 in)
Engine Displacement	2.3 liters	1.6 liters
Moment of Inertia	324615 kgs (28732 lbs)	187728 kgs (16616 lbs)
Vehicle Mass	1515 kgs (8.7 lb-s^2/in)	1110 kgs (6.4 lb-s^2/in)

1994 Nissan Sentra XE



1995 Volvo 940



SCI Case #CA96-05
[REDACTED], 1997



GENERAL VEHICLE FORM

1. Primary Sampling Unit Number

2. Case Number - Stratum 96-05

3. Vehicle Number 01

VEHICLE IDENTIFICATION

4. Vehicle Model Year 95

Code the last two digits of the model year
(99) Unknown

5. Vehicle Make (specify): Volvo

Applicable codes are found in your
NASS Data Collection, Coding and
Editing Manual.
(99) Unknown

6. Vehicle Model (specify): 040

Applicable codes are found in your
NASS Data Collection, Coding and
Editing Manual.
(999) Unknown

7. Body Type 04

Note: Applicable codes may be found on
the back of this page.

8. Vehicle Identification Number

YV1JS831253 (Serial # on fheel)
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

Left justify; Slash zeros and letter Z (0 and Z)
No VIN—Code all zeros
Unknown—Code all nines

9. Vehicle Special Use (This Trip) 0

- (0) No special use
- (1) Taxi
- (2) Vehicle used as school bus
- (3) Vehicle used as other bus
- (4) Military
- (5) Police
- (6) Ambulance
- (7) Fire truck or car
- (8) Other (specify): _____
- (9) Unknown

OFFICIAL RECORDS

10. Police Reported Vehicle Disposition 1

- (0) Not towed due to vehicle damage
- (1) Towed due to vehicle damage
- (9) Unknown

11. Police Reported Travel Speed 999

Code to the nearest kmph (NOTE: 000 means
less than 0.5 kmph)
(160) 159.5 kmph and above
(999) Unknown

____ mph X 1.6093 = ____ kmph

12. Speed Limit 072

(000) No statutory limit

Code posted or statutory speed limit in kmph
(999) Unknown

____ mph X 1.6093 = ____ kmph

13. Police Reported Alcohol Presence For Driver 0

- (0) No alcohol present
- (1) Yes alcohol present
- (7) Not reported
- (8) No driver present
- (9) Unknown

14. Alcohol Test Result For Driver 96

Code actual value (decimal implied
before first digit—0.xx)
(95) Test refused
(96) None given
(97) AC test performed, results unknown
(98) No driver present
(99) Unknown

Source: _____

15. Police Reported Other Drug Presence For Driver 0

- (0) No other drug(s) present
- (1) Yes other drug(s) present
- (7) Not reported
- (8) No driver present
- (9) Unknown

16. Other Drug Specimen Test Result For Driver 0

- (0) No specimen test given
- (1) Drug(s) not found in specimen
- (2) Drug(s) found in specimen, (specify): _____
- (3) Specimen test given, results unknown or not obtained
- (8) No driver present
- (9) Unknown if specimen test given

17. Driver's Zip Code [REDACTED]

(00001) Driver not a resident of U.S. or territories

Code actual 5-digit zip code

- (99998) No driver present
- (99999) Unknown

18. Driver's Race/Ethnic Origin 1

- (1) White (non-Hispanic)
- (2) Black (non-Hispanic)
- (3) White (Hispanic)
- (4) Black (Hispanic)
- (5) American Indian, Eskimo or Aleut
- (6) Asian or Pacific Islander
- (7) Other (specify): _____
- (8) No driver present
- (9) Unknown

CODES FOR BODY TYPE

CDS APPLICABLE VEHICLES

Automobiles

- (01) Convertible (excludes sun-roof, t-bar)
- (02) 2-door sedan, hardtop, coupe
- (03) 3-door/2-door hatchback
- (04) 4-door sedan, hardtop
- (05) 5-door/4-door hatchback
- (06) Station wagon (excluding van and truck based)
- (07) Hatchback, number of doors unknown
- (08) Other automobile type (specify): _____
- (09) Unknown automobile type

Automobile Derivatives

- (10) Auto based pickup (includes El Camino, Caballero, Ranchero, Brat, and Rabbit pickup)
- (11) Auto based panel (cargo station wagon, auto based ambulance/hearse)
- (12) Large limousine - more than four side doors or stretched chassis
- (13) Three-wheel automobile or automobile derivative

Utility Vehicles ($\leq 4,536$ kgs GVWR)

- (14) Compact utility (Jeep CJ-2 - CJ-7, Scrambler, Golden Eagle, Renegade, Laredo, Wrangler, Cherokee [84 and after], Dispatcher, Raider, Bronco II, Bronco [76 and before], Explorer, S-10 Blazer, Geo Tracker, Bravada, S-15 Jimmy, Thing, Pathfinder, Trooper, Trooper II, Rodeo, Amigo, Navajo, 4-Runner, Montero, Passport, Samurai, Sidekick, Rocky)
- (15) Large utility (includes Jeep Cherokee [83 and before], Ramcharger, Trailduster, Bronco-fullsize [78 and after], fullsize Blazer, fullsize Jimmy, Hummer, Landcruiser, Rover, Scout, Yukon)
- (16) Utility station wagon (Chevy Suburban, GMC Suburban, Travelall, Grand Wagoneer, includes suburban limousine)
- (19) Utility, unknown body type

Van Based Light Trucks ($\leq 4,536$ kgs GVWR)

- (20) Minivan (Town and Country, Caravan, Grand Caravan, Voyager, Grand Voyager, Mini-Ram, Vista, Aerostar, Windstar, Villager, Lumina APV, Trans Sport, Silhouette, Astro, Safari, Toyota Van, Toyota Minivan, Previa, Nissan Minivan, Quest, Mitsubishi Minivan, Expo Wagon, Vanagon/Camper.)
- (21) Large van (B150-B350, Sportsman, Royal, Maxiwagon, Ram, Tradesman, Voyager [83 and before], E150-E350, Econoline, Clubwagon, Chateau, G10-G30, Chevy Van, Beauville, Sport Van, G15-G35, Rally Van, Vandura.)
- (22) Step van or walk-in van ($\leq 4,536$ kgs GVWR)
- (23) Van based motorhome ($\leq 4,536$ kgs GVWR)
- (24) Van based school bus ($\leq 4,536$ kgs GVWR)
- (25) Van based other bus ($\leq 4,536$ kgs GVWR)
- (28) Other van type (Hi-Cube Van, Kary) (specify): _____
- (29) Unknown van type

Light Conventional Trucks (Pickup style cab, $\leq 4,536$ kgs GVWR)

- (30) Compact pickup (D50, Colt P/U, Ram 50, Dakota, Arrow Pickup [foreign], Ranger, Courier, S-10, T-10, LUV, S-15, T-15, Sonoma, Datsun/Nissan Pickup, P'up, Mazda Pickup, Toyota Pickup, Mitsubishi Pickup)
- (31) Large Pickup (Jeep Pickup, Comanche, Ram Pickup, D100-D350, W100-W350, F100-F350, C10-C35, K10-K35, R10-R35, V10-V35, Silverado, Sierra, R100-R500, T100)
- (32) Pickup with slide-in camper
- (33) Convertible pickup
- (39) Unknown pickup style light conventional truck type

Other Light Trucks ($\leq 4,536$ kgs GVWR)

- (40) Cab chassis based (includes rescue vehicles, light stake, dump, and tow truck)
- (41) Truck based panel
- (42) Light truck based motorhome (chassis mounted)
- (45) Other light conventional truck type
- (48) Unknown light truck type
- (49) Unknown light vehicle type (automobile, utility, van, or light truck)

OTHER VEHICLES

Buses (Excludes Van Based)

- (50) School bus (designed to carry students, not cross country or transit)
- (58) Other bus type (e.g., transit, intercity, bus based motorhome) (specify): _____
- (59) Unknown bus type

Medium/Heavy Trucks ($> 4,536$ kgs GVWR)

- (60) Step van ($> 4,536$ kgs GVWR)
- (61) Single unit straight truck ($4,536$ kgs $<$ GVWR $\leq 8,845$ kgs)
- (62) Single unit straight truck ($8,845$ kgs $<$ GVWR $\leq 11,793$ kgs)
- (63) Single unit straight truck ($> 11,793$ kgs GVWR)
- (64) Single unit straight truck, GVWR unknown
- (65) Medium/heavy truck based motorhome
- (67) Truck-tractor with no cargo trailer
- (68) Truck-tractor pulling one trailer
- (69) Truck-tractor pulling two or more trailers
- (70) Truck-tractor (unknown if pulling trailer)
- (78) Unknown medium/heavy truck type
- (79) Unknown truck type (light/medium/heavy)

Motored Cycles (Does Not Include All-Terrain Vehicles/Cycles)

- (80) Motorcycle
- (81) Moped (motorized bicycle)
- (82) Three-wheel motorcycle or moped
- (88) Other motored cycle (minibike, motorscooter) (specify): _____
- (89) Unknown motored cycle type

Other Vehicles

- (90) ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle)
- (91) Snowmobile
- (92) Farm equipment other than trucks
- (93) Construction equipment other than trucks
- (97) Other vehicle type
- (99) Unknown body type

PRECRASH ENVIRONMENTAL DATA

19. Relation To Interchange Or Junction 2
 (0) Non-interchange area and non-junction
 (1) Interchange area related

Non-Interchange junctions

- (2) Intersection related
 (3) Driveway, alley access related
 (4) Other junction (specify) _____

(5) Unknown type of junction

(9) Unknown

20. Trafficway Flow 0
 (0) Not physically divided (two way traffic)
 (1) Divided trafficway-median strip without positive barrier
 (2) Divided trafficway-median strip with positive barrier
 (3) One way traffic
 (9) Unknown

21. Number Of Travel Lanes 5
 (1) One
 (2) Two
 (3) Three
 (4) Four
 (5) Five
 (6) Six
 (7) Seven or more
 (9) Unknown

22. Roadway Alignment 1
 (1) Straight
 (2) Curve right
 (3) Curve left
 (9) Unknown

23. Roadway Profile 1
 (1) Level
 (2) Uphill grade (> 2%)
 (3) Hill crest
 (4) Downhill grade (> 2%)
 (5) Sag
 (9) Unknown

24. Roadway Surface Type 2
 (1) Concrete
 (2) Bituminous (asphalt)
 (3) Brick or block
 (4) Slag, gravel, or stone
 (5) Dirt
 (8) Other (specify): _____
 (9) Unknown

25. Roadway Surface Condition 3

- (1) Dry
 (2) Wet
 (3) Snow or slush
 (4) Ice
 (5) Sand, dirt, or oil
 (8) Other (specify): _____
 (9) Unknown

26. Light Conditions 3

- (1) Daylight
 (2) Dark
 (3) Dark, but lighted
 (4) Dawn
 (5) Dusk
 (9) Unknown

27. Atmospheric Conditions 3

- (0) No adverse atmospheric-related driving conditions
 (1) Rain
 (2) Sleet/hail
 (3) Snow
 (4) Fog
 (5) Rain and fog
 (6) Sleet and fog
 (7) Other (e.g., smog, smoke, blowing sand or dust, etc.) (specify): _____
 (9) Unknown

28. Traffic Control Device 1

- (0) No traffic control(s)
 (1) Traffic control signal (not RR crossing)

Regulatory

- (2) Stop sign
 (3) Yield sign
 (4) School zone sign
 (5) Other regulatory sign (specify): _____

- (6) Warning sign (not RR crossing)
 (7) Unknown sign
 (8) Miscellaneous/other controls including RR controls (specify): _____
 (9) Unknown

29. Traffic Control Device Functioning 2

- (0) No traffic control device
 (1) Traffic control device not functioning (specify): _____
 (2) Traffic control device functioning properly
 (9) Unknown

PRECRASH DRIVER RELATED DATA

30. Driver's Distraction/Inattention To Driving (Prior To Recognition Of Critical Event) 02
- (00) No driver present
- (01) Attentive or not distracted
- (02) Looked but did not see
- Distractions*
- (03) By other occupant(s), (specify): _____
- (04) By moving object in vehicle (specify): _____
- (05) While talking or listening to cellular phone (specify location and type of phone): _____
- (06) While dialing cellular phone (specify location and type of phone): _____
- (07) While adjusting climate controls
- (08) While adjusting radio, cassette, CD (specify): _____
- (09) While using other device/controls integral to vehicle (specify): _____
- (10) While using or reaching for device/object brought into vehicle (specify): _____
- (11) Sleepy or fell asleep
- (12) Distracted by outside person, object, or event (specify): _____
- (13) Eating or drinking
- (14) Smoking related
- (97) Distracted/inattentive, details unknown
- (98) Other, distraction (specify): _____
- (99) Unknown
31. Pre-Event Movement (Prior to Recognition of Critical Event) 02
- (00) No driver present
- (01) Going straight
- (02) Decelerating in traffic lane
- (03) Accelerating in traffic lane
- (04) Starting in traffic lane
- (05) Stopped in traffic lane
- (06) Passing or overtaking another vehicle
- (07) Disabled or parked in travel lane
- (08) Leaving a parking position
- (09) Entering a parking position
- (10) Turning right
- (11) Turning left
- (12) Making a U-turn
- (13) Backing up (other than for parking position)
- (14) Negotiating a curve
- (15) Changing lanes
- (16) Merging
- (17) Successful avoidance maneuver to a previous critical event
- (97) Other (specify): _____
- (99) Unknown
32. Critical Precrash Event 15
- THIS VEHICLE LOSS OF CONTROL DUE TO:**
- (01) Blow out or flat tire
- (02) Stalled engine
- (03) Disabling vehicle failure (e.g., wheel fell off) (specify): _____
- (04) Non-disabling vehicle problem (e.g., hood flew up) (specify): _____
- (05) Poor road conditions (puddle, pot hole, ice, etc.) (specify): _____
- (06) Traveling too fast for conditions
- (08) Other cause of control loss (specify): _____
- (09) Unknown cause of control loss

THIS VEHICLE TRAVELLING

- (10) Over the lane line on left side of travel lane
- (11) Over the lane line on right side of travel lane
- (12) Off the edge of the road on the left side
- (13) Off the edge of the road on the right side
- (14) End departure
- (15) Turning left at intersection
- (16) Turning right at intersection
- (17) Crossing over (passing through) intersection
- (18) This vehicle decelerating
- (19) Unknown travel direction

OTHER MOTOR VEHICLE IN LANE

- (50) Other vehicle stopped
- (51) Traveling in same direction with lower steady speed
- (52) Traveling in same direction while decelerating
- (53) Traveling in same direction with higher speed
- (54) Traveling in opposite direction
- (55) In crossover
- (56) Backing
- (59) Unknown travel direction of other motor vehicle in lane

OTHER MOTOR VEHICLE ENCROACHING INTO LANE

- (60) From adjacent lane (same direction)—over left lane line
- (61) From adjacent lane (same direction)—over right lane line
- (62) From opposite direction—over left lane line
- (63) From opposite direction—over right lane line
- (64) From parking lane
- (65) From crossing street, turning into same direction
- (66) From crossing street, across path
- (67) From crossing street, turning into opposite direction
- (68) From crossing street, intended path not known
- (70) From driveway, turning into same direction
- (71) From driveway, across path
- (72) From driveway, turning into opposite direction
- (73) From driveway, intended path not known
- (74) From entrance to limited access highway
- (78) Encroachment by other vehicle—details unknown

PEDESTRIAN, PEDALCYCLIST, OR OTHER NONMOTORIST

- (80) Pedestrian in roadway
- (81) Pedestrian approaching roadway
- (82) Pedestrian—unknown location
- (83) Pedalcyclist or other nonmotorist in roadway (specify): _____
- (84) Pedalcyclist or other nonmotorist approaching roadway, (specify): _____
- (85) Pedalcyclist or other nonmotorist—unknown location (specify): _____

OBJECT OR ANIMAL

- (87) Animal in roadway
- (88) Animal approaching roadway
- (89) Animal—unknown location
- (90) Object in roadway
- (91) Object approaching roadway
- (92) Object—unknown location
- (98) Other critical precrash event (specify): _____
- (99) Unknown

33. Attempted Avoidance Maneuver 01

- (00) No driver present
- (01) No avoidance maneuver
- (02) Braking (no lockup)
- (03) Braking (lockup)
- (04) Braking (lockup unknown)
- (05) Releasing brakes
- (06) Steering left
- (07) Steering right
- (08) Braking and steering left
- (09) Braking and steering right
- (10) Accelerating
- (11) Accelerating and steering left
- (12) Accelerating and steering right
- (98) Other action (specify):

(99) Unknown

34. Pre-Impact Stability 1

- (0) No driver present
- (1) Tracking
- (2) Skidding longitudinally—rotation less than 30 degrees
- (3) Skidding laterally—clockwise rotation
- (4) Skidding laterally—counterclockwise rotation
- (7) Other vehicle loss-of-control (specify):

(9) Precrash stability unknown

35. Pre-Impact Location 1

- (0) No driver present
- (1) Stayed in original travel lane
- (2) Stayed on roadway but left original travel lane
- (3) Stayed on roadway, not known if left original travel lane
- (4) Departed roadway
- (5) Remained off roadway
- (6) Returned to roadway
- (7) Entered roadway
- (9) Unknown

36. Accident Type 68

(Note: Applicable codes on back of this page)

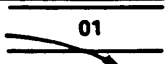
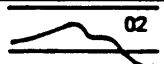
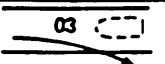


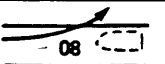
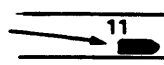

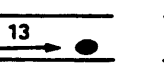
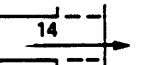
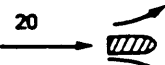

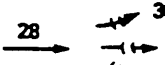




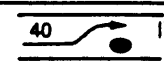
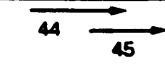
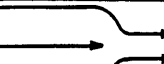
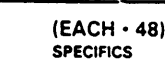

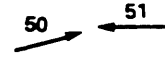
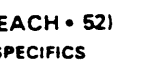
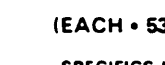


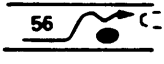

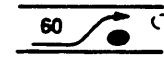
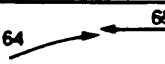
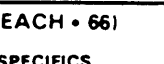

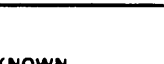

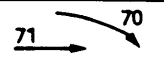

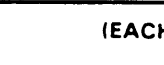
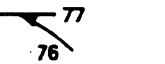
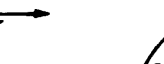
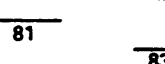
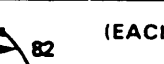
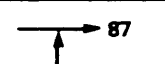


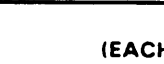
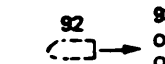

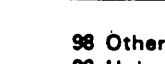

- (00) No impact

Code the number of the diagram that best describes the accident circumstance

- (98) Other accident type (specify):

(99) Unknown

STOP HERE IF GV07 DOES NOT EQUAL 01 - 49

Category	Configuration	ACCIDENT TYPES (Includes Intent)				
I Single Driver	A. Right Roadside Departure	 01 DRIVE OFF ROAD	 02 CONTROL/ TRACTION LOSS	 03 AVOID COLLISION WITH VEH., PED., ANIM.	04 SPECIFICS OTHER	05 SPECIFICS UNKNOWN
	B. Left Roadside Departure	 06 DRIVE OFF ROAD	 07 CONTROL/ TRACTION LOSS	 08 AVOID COLLISION WITH VEH., PED., ANIM.	09 SPECIFICS OTHER	10 SPECIFICS UNKNOWN
	C. Forward Impact	 11 PARKED VEH.	 12 STA. OBJECT	 13 PEDESTRIAN/ ANIMAL	 14 END DEPARTURE	15 SPECIFICS OTHER 16 SPECIFICS UNKNOWN
II Same Trafficway Same Direction	D. Rear-End	 20 STOPPED 21, 22, 23	 22 SLOWER 25, 26, 27	 24 DECEL. 28, 30, 31	 26 AVOID COLLISION WITH VEH.	(EACH • 32) SPECIFICS OTHER (EACH • 33) SPECIFICS UNKNOWN
	E. Forward Impact	 34 CONTROL/ TRACTION LOSS	 36 CONTROL/ TRACTION LOSS	 38 AVOID COLLISION WITH VEH.	 40 AVOID COLLISION WITH OBJECT	(EACH • 42) SPECIFICS OTHER (EACH • 43) SPECIFICS UNKNOWN
	F. Sideswipe Angle	 44 LATERAL MOVE	 46 LATERAL MOVE	 48 LATERAL MOVE	 49 LATERAL MOVE	(EACH • 48) SPECIFICS OTHER (EACH • 49) SPECIFICS UNKNOWN
III Same Trafficway Opposite Direction	G. Head-On	 50 LATERAL MOVE	 52 LATERAL MOVE	 53 LATERAL MOVE	 54 LATERAL MOVE	(EACH • 52) SPECIFICS OTHER (EACH • 53) SPECIFICS UNKNOWN
	H. Forward Impact	 54 CONTROL/ TRACTION LOSS	 56 CONTROL/ TRACTION LOSS	 58 AVOID COLLISION WITH VEH.	 60 AVOID COLLISION WITH OBJECT	(EACH • 62) SPECIFICS OTHER (EACH • 63) SPECIFICS UNKNOWN
	I. Sideswipe Angle	 64 LATERAL MOVE	 66 LATERAL MOVE	 67 LATERAL MOVE	 68 LATERAL MOVE	(EACH • 66) SPECIFICS OTHER (EACH • 67) SPECIFICS UNKNOWN
IV Change Trafficway Vehicle Turning	J. Turn Across Path	 68 INITIAL OPPOSITE DIRECTIONS	 70 INITIAL SAME DIRECTIONS	 72 INITIAL SAME DIRECTIONS	 74 INITIAL SAME DIRECTIONS	(EACH • 74) SPECIFICS OTHER (EACH • 75) SPECIFICS UNKNOWN
	K. Turn Into Path	 76 TURN INTO SAME DIRECTION	 78 TURN INTO SAME DIRECTION	 80 TURN INTO OPPOSITE DIRECTIONS	 82 TURN INTO OPPOSITE DIRECTIONS	(EACH • 84) SPECIFICS OTHER (EACH • 85) SPECIFICS UNKNOWN
V Indirecting Paths (Vehicle Damage)	L. Straight Paths	 86 STRAIGHT PATHS	 88 STRAIGHT PATHS	 90 STRAIGHT PATHS	 91 STRAIGHT PATHS	(EACH • 90) SPECIFICS OTHER (EACH • 91) SPECIFICS UNKNOWN
VI Miscellaneous	M. Backing Etc.	 92 BACKING VEH.	 93 OTHER VEH. OR OBJECT	 98 OTHER ACCIDENT TYPE	 99 UNKNOWN ACCIDENT TYPE	98 Other Accident Type 99 Unknown Accident Type 00 No Impact

OCCUPANT RELATED

37. Driver Presence in Vehicle 1
 (0) Driver not present
 (1) Driver present
 (9) Unknown
38. Number of Occupants This Vehicle 01
 (00-96) Code actual number of occupants for this vehicle
 (97) 97 or more
 (99) Unknown
39. Number of Occupant Forms Submitted 01

AIR BAG RELATED

40. Is this an AOPS Vehicle? 1
 (0) No (includes unknown)
 (1) Yes - researcher determined
 (2) VIN determined air bag system
 (3) VIN determined automatic (passive) belts
 (4) VIN determined air bag and automatic (passive) belts
41. Air Bag(s) Deployment, First Seat Frontal 6
 (0) Not equipped or not available
 (1) No air bags deployed
Single Air Bag Vehicle
 (2) Driver air bag deployed
 (3) Driver air bag, unknown if deployed
Multiple Air Bag Vehicle
 (4) Driver side only deployed
 (5) Passenger side only deployed
 (6) Driver and passenger side deployed
 (7) Driver and passenger side unknown if deployed
 (8) Air bag(s) deployed, details unknown
 (9) Unknown
42. Air Bag(s) Deployment, Other Than First Seat Frontal 0
 (0) Not equipped with an "other" air bag
 (1) Deployed during accident (as a result of impact)
 (2) Deployed inadvertently just prior to accident
 (3) Deployed, details unknown
 (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
 (5) Unknown if deployed
 (7) Nondeployed
 (9) Unknown

Specify type of "other" air bag present: _____

VEHICLE WEIGHT ITEMS

43. Vehicle Curb Weight 1.460
 _____ Code weight to nearest 10 kilograms.
 (045) Less than 454 kilograms
 (612) 6,124 kilograms or more
 (999) Unknown
 _____ lbs X .4536 = _____ kgs

Source: (MVMA) AAMA

44. Vehicle Cargo Weight 0.000
 _____ Code weight to nearest 10 kilograms.
 (000) Less than 5 kilograms
 (454) 4,536 kilograms or more
 (999) Unknown
 _____ lbs X .4536 = _____ kgs

Source: _____

ROLLOVER DATA

45. Rollover 00
 (00) No rollover (no overturning)
Rollover (primarily about the longitudinal axis)
 (01-16) Code the number of quarter turns
 (17) Rollover, 17 or more quarter turns (specify): _____
 (98) Rollover--end-over-end (i.e., primarily about the lateral axis)
 (99) Rollover (overturn), details unknown
46. Rollover Initiation Type 00
 (00) No rollover
 (01) Trip-over
 (02) Flip-over
 (03) Turn-over
 (04) Climb-over
 (05) Fall-over
 (06) Bounce-over
 (07) Collision with another vehicle
 (08) Other rollover initiation type (specify): _____
 (98) Rollover--end-over-end
 (99) Unknown rollover initiation type
47. Location of Rollover Initiation 0
 (0) No rollover
 (1) On roadway
 (2) On shoulder--paved
 (3) On shoulder--unpaved
 (4) On roadside or divided trafficway median
 (8) Rollover--end-over-end
 (9) Unknown
48. Rollover Initiation Object Contacted 00
 (Note: Applicable codes on back of page)
49. Location on Vehicle Where Initial Principal Tripping Force Is Applied 0
 (0) No rollover
 (1) Wheels/tires
 (2) Side plane
 (3) End plane
 (4) Undercarriage
 (5) Other location on vehicle (specify): _____
 (6) Non-contact rollover forces (specify): _____
 (8) Rollover--end-over-end
 (9) Unknown

50. Direction of Initial Roll 0
 (0) No rollover
 (1) Roll right - primarily about the longitudinal axis
 (2) Roll left - primarily about the longitudinal axis
 (8) Rollover--end-over-end
 (9) Unknown roll direction

CODES FOR ROLLOVER INITIATION OBJECT CONTACTED

- (00) No rollover
- (01-30) — Vehicle Number

Noncollision

- (31) Turn-over — fall-over
- (32) No rollover impact initiation (end-over-end)
- (34) Jackknife

Collision With Fixed Object

- (41) Tree (≤ 10 cm in diameter)
- (42) Tree (> 10 cm in diameter)
- (43) Shrubbery or bush
- (44) Embankment
- (45) Breakaway pole or post (any diameter)

Nonbreakaway Pole or Post

- (50) Pole or post (≤ 10 cm in diameter)
- (51) Pole or post (> 10 cm but ≤ 30 cm in diameter)
- (52) Pole or post (> 30 cm in diameter)
- (53) Pole or post (diameter unknown)
- (54) Concrete traffic barrier
- (55) Impact attenuator
- (56) Other traffic barrier (includes guardrail)
(specify): _____

- (57) Fence
- (58) Wall
- (59) Building
- (60) Ditch or culvert
- (61) Ground
- (62) Fire hydrant
- (63) Curb
- (64) Bridge
- (68) Other fixed object (specify): _____

(69) Unknown fixed object

Collision with Nonfixed Object

- (70) Passenger car, light truck, van, or other vehicle not in-transport
- (71) Medium/heavy truck or bus not in-transport
- (76) Animal
- (77) Train
- (78) Trailer, disconnected in transport
- (79) Object fell from vehicle in-transport
- (88) Other nonfixed object (specify): _____

(89) Unknown nonfixed object

(98) Other event (specify): _____

(99) Unknown event or object

VERRIDE/UNDERRIDE (THIS VEHICLE)

51. Front Override/Underride (this Vehicle) 0
52. Rear Override/Underride (this Vehicle) 0
- (0) No override/underride, or not an end-to-end impact between two CDS applicable vehicles, and no medium/heavy truck or bus underride
- Override (see specific CDC)*
[Between 2 CDS applicable vehicles (Bodytype, GV07 = 1-49)]
 (1) 1st CDC
 (2) 2nd CDC
 (3) Other not automated CDC (specify): _____
- Underride (see specific CDC)*
[Between 2 CDS applicable vehicles (Bodytype, GV07 = 1-49)]
 (4) 1st CDC
 (5) 2nd CDC
 (6) Other not automated CDC (specify): _____
- (7) Medium/heavy truck or bus override (of any configuration)
 (9) Unknown

HEADING ANGLE AT IMPACT FOR HIGHEST DELTA V

Values: (000)-(359) Code actual value
 (996) Non-horizontal impact
 (997) Noncollision
 (998) Impact with object
 (999) Unknown

53. Heading Angle For This Vehicle 0 4 0
54. Heading Angle For Other Vehicle 2 7 4

RECONSTRUCTION DATA

55. Towed Trailing Unit 0
 (0) No towed unit
 (1) Yes—towed trailing unit
 (9) Unknown
56. Documentation of Trajectory Data for This Vehicle 0
 (0) No
 (1) Yes
57. Post Collision Condition of Tree or Pole (For Highest Delta V) 0
 (0) Not collision (for highest delta V) with tree or pole
 (1) Not damaged
 (2) Cracked/sheared
 (3) Tilted < 45 degrees
 (4) Tilted ≥ 45 degrees
 (5) Uprooted tree
 (6) Separated pole from base
 (7) Pole replaced
 (8) Other (specify): _____
 (9) Unknown

ACCIDENT RECONSTRUCTION PROGRAMS HIGHEST DELTA V

58. Basis for Total (Resultant) Delta V (highest) 0 1

(00) No vehicle inspection

Delta V Calculated

- (01) Reconstruction program-damage only routine
 (02) Reconstruction program-damage and trajectory routine
 (03) Missing vehicle algorithm

Delta V Not Calculated

- (04) At least one vehicle (which may be this vehicle) is beyond the scope of an acceptable reconstruction program, regardless of collision conditions.

All vehicles within scope (CDC applicable) of reconstruction program but one of the collision conditions is beyond the scope of the reconstruction program or other acceptable reconstruction technique, regardless of adequacy of damage data.

- (05) Rollover
 (06) Other non-horizontal forces
 (07) Sideswipe type damage
 (08) Severe override
 (09) Yielding object
 (10) Overlapping damage
 (11) All vehicle and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available, (specify):

(98) Other, (specify): _____

COMPUTER GENERATED CRASH SEVERITY

59. Total Delta V Highest
013

_____ Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: 000 means less than 0.5 kmph)
 (160) 159.5 kmph and above
 (999) Unknown

60. Longitudinal Component of Delta V Highest
+ 0011

_____ Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: __000 means greater than
 -0.5 kmph and less than +0.5 kmph)
 (±160) ±159.5 kmph and above
 (_999) Unknown

61. Lateral Component of Delta V Highest
+ 0006

_____ Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: __000 means greater than -0.5 kmph and
 less than +0.5 kmph)
 (±160) ±159.5 kmph and above
 (_999) Unknown

62. Energy Absorption Highest
37,300

_____ Nearest 100 joules (highest)

_____ Nearest 100 joules (secondary)

(NOTE: 0000 means less than 50 joules)
 (9997) 999,650 joules or more
 (9999) Unknown

63. Impact Speed Highest
998

_____ Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: 000 means
 less than 0.5 kmph)
 (160) 159.5 kmph and above
 (998) Trajectory algorithm not run
 (999) Unknown

DELTA V CONFIDENCE LEVEL

64. Confidence In Reconstruction Program
 Results (For Highest Delta V) 3
 (0) No reconstruction
 (1) Collision fits model — results appear
 reasonable
 (2) Collision fits model — results appear high
 (3) Collision fits model — results appear low
 (4) Borderline reconstruction — results appear
 reasonable

OTHER SPEED ESTIMATE

65. Barrier Equivalent Speed Highest
023

_____ Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: 000 means
 less than 0.5 kmph)
 (160) 159.5 kmph and above
 (999) Unknown

ESTIMATED DELTA V	INSPECTION TYPE
66. Estimated Highest Delta V (Researcher Determined) <u>0</u> (0) Reconstruction Delta V coded <i>Estimated Delta V</i> (1) Less than 10 kmph (2) ≥ 10 kmph but < 25 kmph (3) ≥ 25 kmph but < 40 kmph (4) ≥ 40 kmph but < 55 kmph (5) ≥ 55 kmph <i>Other estimates of damage severity</i> (6) Minor (7) Moderate (8) Severe (9) Unknown	67. Type of Vehicle Inspection <u>3</u> (0) No inspection (1) Vehicle fully repaired-no damage evident (2) Partial inspection (specify): _____ (3) Complete inspection DELTA V EVENT NUMBER 68. Delta V Event Number <u>1</u> _____ Code the accident event sequence number that resulted in the Delta V that has been coded above for this vehicle (99) Unknown

*** IF THE CDS APPLICABLE VEHICLE WAS NOT INSPECTED (I.E., GV67 = 0), ***

DO NOT COMPLETE THE EXTERIOR AND INTERIOR VEHICLE FORMS

*** IF GV07 DOES NOT EQUAL 01-49, DO NOT COMPLETE ***

THE EXTERIOR VEHICLE, INTERIOR VEHICLE,
OCCUPANT ASSESSMENT, AND OCCUPANT INJURY FORMS.



EXTERIOR VEHICLE FORM

1. Primary Sampling Unit Number <u> </u>	3. Vehicle Number <u>01</u>
2. Case Number - Stratum <u>9605</u>	

VEHICLE IDENTIFICATION

VIN YV1JS8312S3 (Serial # omitted) Model Year 95

Vehicle Make (specify): Volvo Vehicle Model (specify): 940

LOCATOR

Locate the end of the damage with respect to the vehicle's damaged center point or bumper corner for end impacts or an undamaged axle for side impacts.

Specific Impact No.	Location of Direct Damage	Location of Field L	Location of Max Crush
01	Bag 36.8cm (14.5") forward of RR axle	34.3cm (13.5") forward RR axle	215.9cm (85.0") forward of RR axle + 48.3cm (19.0") above ground level

CRUSH PROFILE IN CENTIMETERS

NOTES: Identify the plane at which the C-measurements are taken (e.g., at bumper, above bumper, at sill, above sill, etc.) and label adjustments (e.g., free space).

Measure C1 to C6 from driver to passenger side in front or rear impacts and rear to front in side impacts.

Free space value is defined as the distance between the baseline and the original body contour taken at the individual C locations. This may include the following: bumper lead, bumper taper, side protrusion, side taper, etc. Record the value for each C-measurement and maximum crush.

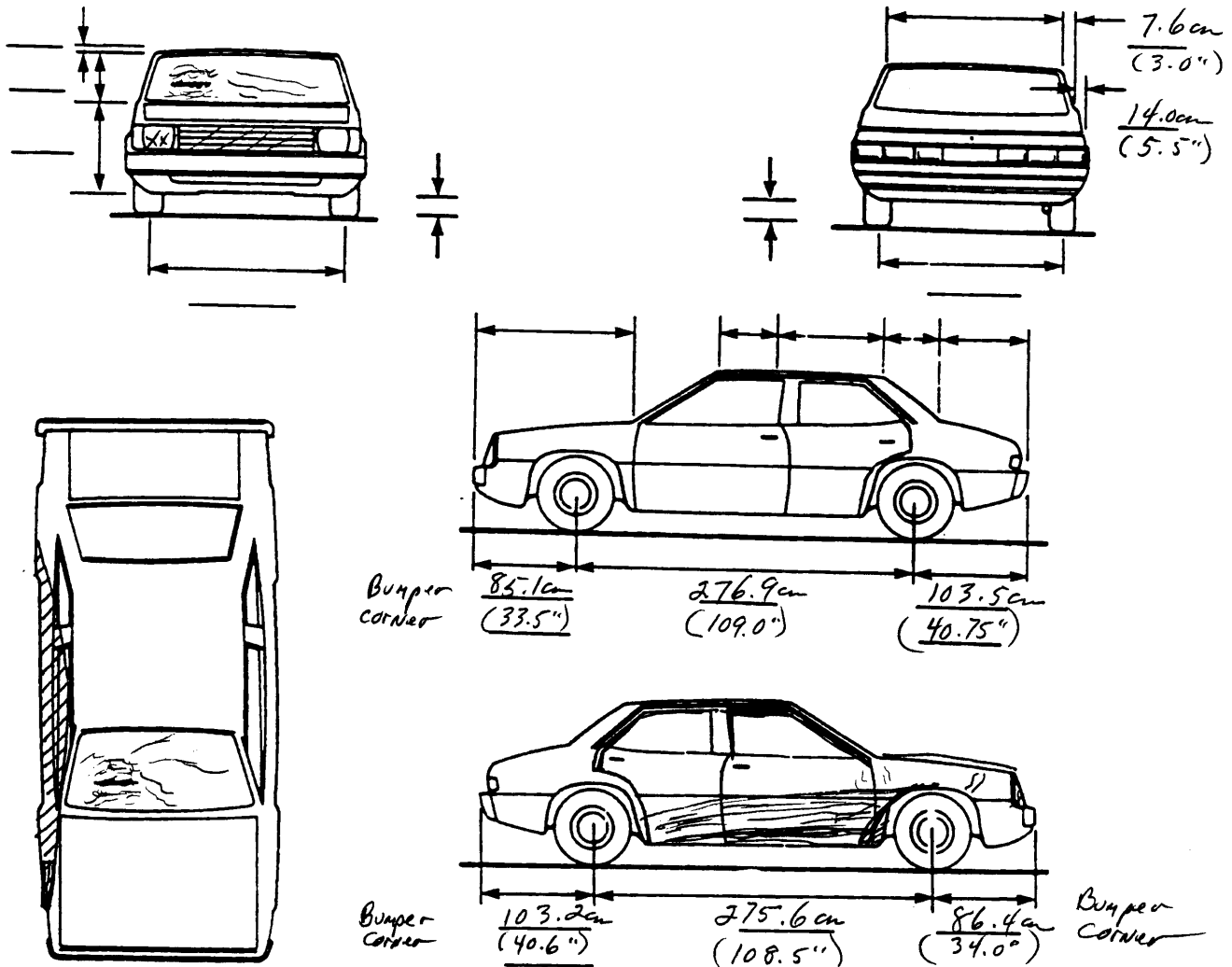
Use as many lines/columns as necessary to describe each damage profile.

Specific Impact Number	Plane of Impact C-Measurements	Direct Damage		Field L	C ₁	C ₂	C ₃	C ₄	C ₅	C ₆	± D
		Width (CDC)	Max Crush								
1	Mid door level	264.2cm	24.5cm	278.1cm	0.6cm	8.9cm	12.1cm	12.7cm	7.6cm	1.9cm	30.5cm
		(104.0")	(9.25")	(109.5")	(0.25")	(3.5")	(4.75")	(5.0")	(3.0")	(0.75")	(+12.0")
1	Sill level				4.8cm	14.3cm	19.4cm	18.7cm	3.5cm	0	30.5cm
					(1.9")	(5.6")	(7.6")	(7.4")	(1.4")	0	(+12.0")

VEHICLE DAMAGE SKETCH

TIRE—WHEEL DAMAGE a. Rotation physically restricted RF <u>2</u> LF <u>2</u> RR <u>2</u> LR <u>2</u> (1) Yes (2) No (8) NA (9) Unk.		ORIGINAL SPECIFICATIONS Wheelbase <u>(109.1") 277.1</u> cm Overall Length <u>(191.7") 486.9</u> cm Maximum Width <u>(69.3") 176.0</u> cm Curb Weight <u>(3,208 lb) 1,455</u> kg Average Track <u>(57.7") 146.6</u> cm Front Overhang <u>(41.9") 106.4</u> cm Rear Overhang <u>(40.75") 103.5</u> cm Undeformed End Width <u>—</u> cm Engine Size: cyl./displ. <u>2.3</u> L		WHEEL STEER ANGLES (For locked front wheels or displaced rear axles only) RF \pm <u>—</u> ° LF \pm <u>—</u> ° RR \pm <u>—</u> ° LR \pm <u>—</u> ° Within \pm 5 degrees
TYPE OF TRANSMISSION <input type="checkbox"/> Manual <input checked="" type="checkbox"/> Automatic END SHIFT \geq 10 CM <u>3 speed</u> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		DRIVE WHEELS <input type="checkbox"/> FWD <input checked="" type="checkbox"/> RWD <input type="checkbox"/> 4WD Approximate Cargo Weight <u>—</u> kg		

MEASUREMENTS IN CENTIMETERS



NOTES: Sketch new perimeter and cross hatch direct damage and single hatch induced damage on all views. Annotate observations which might be useful in reconstructing the accident (e.g., grass in tire bead, direction of striations, scuff on sidewalls, etc.). If pulling trailer, sketch type of trailer and damage received on the back of this page.

Annotate any damage caused by extrication such as component removal by torching, prying, or hydraulic shears.

CODES FOR OBJECT CONTACTED

(99) Unknown event or object

[illegible]

COLLISION DEFORMATION CLASSIFICATION

HIGHEST DELTA "V"

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force	(3) Deformation Location	(4) Longitudinal or Lateral Location	(5) Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
4. <u>01</u>	5. <u>02</u>	6. <u>01</u>	7. <u>R</u>	8. <u>Y</u>	9. <u>E</u>	10. <u>W</u>	11. <u>03</u>

Second Highest Delta "V"

12. _____	13. _____	14. _____	15. _____	16. _____	17. _____	18. _____	19. _____
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CRUSH PROFILE IN CENTIMETERS

The crush profile for the damage described in the CDC(s) above should be documented in the appropriate space below. (ALL MEASUREMENTS ARE IN CENTIMETERS.)

HIGHEST DELTA "V"

20. <u>L</u>	21. <u>C₁</u>	<u>C₂</u>	<u>C₃</u>	<u>C₄</u>	<u>C₅</u>	<u>C₆</u>	22. <u>± D</u>
<u>278</u>	<u>005</u>	<u>014</u>	<u>019</u>	<u>019</u>	<u>008</u>	<u>002</u>	<u>+ 031</u>

Second Highest Delta "V"

23. <u>L</u>	24. <u>C₁</u>	<u>C₂</u>	<u>C₃</u>	<u>C₄</u>	<u>C₅</u>	<u>C₆</u>	25. <u>± D</u>
_____	_____	_____	_____	_____	_____	_____	_____

26. Undeformed End Width

(Coded when highest severity impact is an end plane impact.)

_____ Code to the nearest centimeter

(250) 250 centimeters or more

(998) No highest severity end plane impact

(999) Unknown

998

27. Direct Damage Width

(For highest severity impact)

_____ Code to the nearest centimeter

(250) 250 centimeters or more

(999) Unknown

264

28. Original Wheelbase

_____ Code to the nearest centimeter

(650) 650 centimeters or more

(999) Unknown

_____ inches X 2.54 = _____ centimeters

277

29. Original Average Track Width

_____ Code to the nearest centimeter

(185) 185 centimeters or more

(999) Unknown

_____ inches X 2.54 = _____ centimeters

147

FUEL SYSTEM

30. Are CDCs Documented but Not Coded on The Automated File? 0
 (0) No
 (1) Yes
31. Researcher's Assessment of Vehicle Disposition 1
 (0) Not towed due to vehicle damage
 (1) Towed due to vehicle damage
 (9) Unknown
32. Is This A Multi-Stage Manufactured Vehicle And/OR A Certified Altered Vehicle? 0
 (0) No post manufacturer modifications
 (1) Yes - post manufacturer modifications (specify): _____

 (Include photograph of CERTIFICATION PLACARD in case report)
 (9) Unknown if vehicle is modified

35. Location of Fuel Tank-1 Filler Cap 2
36. Location of Fuel Tank-2 Filler Cap 0
 (0) No fuel tank
 (1) On back plane
 (2) Aft of center of the rear wheels (rear axle) on left side plane
 (3) Aft of center of the rear wheels (rear axle) on right side plane
 (4) Forward of center of the rear wheels (rear axle) on left side plane
 (5) Forward of center of the rear wheels (rear axle) on right side plane
 (6) Over the center of the rear wheels (rear axle) on left side plane
 (7) Over the center of the rear wheels (rear axle) on right side plane
 (8) Other (specify): _____
 (9) Unknown

37. Type of Fuel Tank-1 1
38. Type of Fuel Tank-2 0
 (0) No fuel tank (electrical vehicle)
 (1) Metallic
 (2) Non-metallic
 (9) Unknown

FIRE OCCURRENCE

33. Fire Occurrence 0
 (0) No fire
 Yes, fire occurred
 (1) Minor
 (2) Major
 (9) Unknown
34. Origin of Fire 0
 (0) No fire
 (1) Vehicle exterior (front, side, back, top)
 (2) Exhaust system
 (3) Fuel tank (and other fuel retention system parts)
 (4) Engine compartment
 (5) Cargo/trunk compartment
 (6) Instrument panel
 (7) Passenger compartment area
 (8) Other location (specify): _____
 (9) Unknown

39. Location of Fuel Tank-1 4
40. Location of Fuel Tank-2 0
 (0) No fuel tank
 (1) Aft of center of the rear wheels (rear axle) centered
 (2) Aft of center of the rear wheels (rear axle) left side
 (3) Aft of center of the rear wheels (rear axle) right side
 (4) Forward of center of the rear wheels (rear axle) centered
 (5) Forward of center of the rear wheels (rear axle) left side
 (6) Forward of center of the rear wheels (rear axle) right side
 (7) Over center of the rear wheels (rear axle)
 (8) Other (specify): _____
 (9) Unknown

41. Damage to Fuel Tank-1 1
42. Damage to Fuel Tank-2 0
 (0) No fuel tank
 (1) No damage to fuel tank
 (2) Deformed, no seam failure
 (3) Deformed, with a seam failure
 (4) Punctured
 (5) Lacerated (ripped)
 (6) Abraded (scraped)
 (7) Filler neck separation from the fuel tank
 (8) Other damage (specify): _____
 (9) Unknown

<p>43. Leakage Location of Fuel System-1 <u> 1 </u></p> <p>44. Leakage Location of Fuel System-2 <u> 0 </u></p> <p>(0) No fuel tank</p> <p>(1) No fuel leakage</p> <p><i>Primary Area Of Leakage</i></p> <p>(2) Tank</p> <p>(3) Filler neck</p> <p>(4) Cap</p> <p>(5) Lines/pump/filter</p> <p>(6) Vent/emission recovery</p> <p>(8) Other (specify): _____</p> <p>(9) Unknown</p> <p>45. Fuel Type-1 <u> 0 </u> <u> 1 </u></p> <p>46. Fuel Type-2 <u> av </u></p> <p><i>Single Fuel Type</i></p> <p>(00) No fuel tank</p> <p>(01) Gasoline</p> <p>(02) Diesel</p> <p>(03) CNG (Compressed Natural Gas)</p> <p>(04) LPG (Liquid Petroleum Gas) also known as Propane</p> <p>(05) LNG (Liquid Natural Gas)</p> <p>(06) Methanol (M100 or M85)</p> <p>(07) Ethanol (E100 or E85)</p> <p>(08) Other (Hydrogen or others) (specify): _____</p> <p><i>Electric Powered or Electric/Solar Powered Vehicles</i></p> <p>(10) Lead Acid Battery</p> <p>(11) Nickel-Iron Battery</p> <p>(12) Nickel-Cadmium Battery</p> <p>(13) Sodium Metal Chloride Battery</p> <p>(14) Sodium Sulfur Battery</p> <p>(18) Other (Specify): _____</p> <p>(98) Other Hybrid (specify): _____</p> <p>(99) Unknown fuel type</p>	<p>47. Is This Vehicle Equipped With More Than Two Fuel Tanks? <u> 0 </u></p> <p>(0) No (one or two tanks only)</p> <p><i>Yes - More Than Two Tanks</i></p> <p>(1) Yes -- <u>no damage</u> to any tank or filler cap and <u>no fuel system leakage</u></p> <p>(2) Yes -- <u>no damage</u> to any tank or filler cap but <u>there is fuel system leakage</u> (specify leakage location): _____</p> <p>(3) Yes -- <u>damage</u> to an additional tank or filler cap and <u>there is fuel system leakage</u> (specify the following): Type of tank _____ Tank location _____ Filler cap location _____ Tank damage _____ Location of leakage _____ Type of fuel _____</p> <p>(9) Unknown if more than two tanks</p> <p style="text-align: center;">COMMENTS</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
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*** STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT TOWED ***

(GV10=0)

DO NOT COMPLETE THE INTERIOR VEHICLE FORM.



INTERIOR VEHICLE FORM

1. Primary Sampling Unit Number _____

2. Case Number - Stratum 9605

3. Vehicle Number 01

INTEGRITY

4. Passenger Compartment Integrity 02

(00) No integrity loss RF

Yes, Integrity Was Lost Through

- (01) Windshield
- (02) Door (side)
- (03) Door/hatch (back door)
- (04) Roof
- (05) Roof glass
- (06) Side window
- (07) Rear window (backlight)
- (08) Roof and roof glass
- (09) Windshield and door (side)
- (10) Windshield and roof
- (11) Side and rear window (side window and backlight)
- (12) Windshield and side window
- (13) Door and side window
- (98) Other combination of above (specify): _____

(99) Unknown _____

Door, Tailgate or Hatch Opening

5. LF 1 6. RF 3 7. LR 1 8. RR 1 9. TG/H 0

- (0) No door/gate/hatch
- (1) Door/gate/hatch remained closed and operational
- (2) Door/gate/hatch came open during collision
- (3) Door/gate/hatch jammed shut
- (8) Other (specify): _____
- (9) Unknown _____

Damage/Failure Associated with Door, Tailgate or Hatch Opening in Collision. If IV05-IV09 ≠ 2, Then code Ø

10. LF 0 11. RF 0 12. LR 0 13. RR 0 14. TG/H 0

- (0) No door/gate/hatch or door not opened

Door, Tailgate or Hatch Came Open During Collision

- (1) Door operational (no damage)
- (2) Latch/striker failure due to damage
- (3) Hinge failure due to damage
- (4) Door structure failure due to damage
- (5) Door support (i.e., pillar, sill, roof side rail, etc.) failure due to damage
- (6) Latch/striker and hinge failure due to damage
- (8) Other failure (specify): _____

(9) Unknown _____

GLAZING

Type of Window/Windshield Glazing

15. WS 1 16. LF 2 17. RF 2 18. LR 2 19. RR 2
20. BL 2 21. Roof 0 22. Other 2

- (0) No glazing
- (1) AS-1 — Laminated
- (2) AS-2 — Tempered
- (3) AS-3 — Tempered-tinted (original)
- (4) AS-2 — Tempered-with after market tint
- (5) AS-3 — Tempered-tinted (with additional after market tint)
- (6) AS-14 — Glass/Plastic
- (7) Glazing removed prior to accident
- (8) Other (specify): _____
- (9) Unknown _____

Window Precrash Glazing Status

23. WS 1 24. LF 2 25. RF 2 26. LR 2 27. RR 2
28. BL 1 29. Roof 0 30. Other 1

- (0) No glazing
- (1) Fixed
- (2) Closed
- (3) Partially opened
- (4) Fully opened
- (7) Glazing removed prior to accident
- (9) Unknown _____

Glazing Damage from Impact Forces ^{PABag}

31. WS 2 32. LF 1 33. RF 1 34. LR 1 35. RR 1
36. BL 1 37. Roof 0 38. Other 1

- (0) No glazing
- (1) No glazing damage from impact forces
- (2) Glazing in place and cracked from impact forces
- (3) Glazing in place and holed from impact forces
- (4) Glazing out-of-place (cracked or not) and not holed from impact forces
- (5) Glazing out-of-place and holed from impact forces
- (6) Glazing disintegrated from impact forces
- (7) Glazing removed prior to accident
- (9) Unknown if damaged

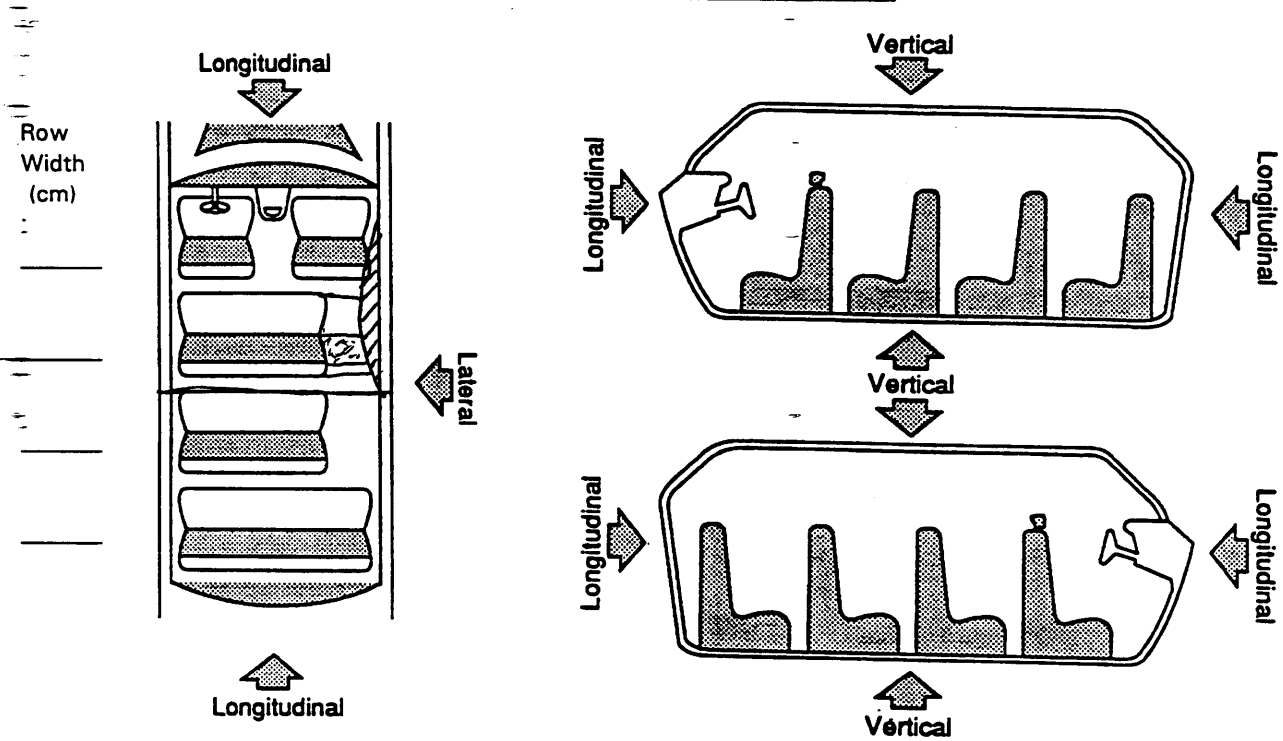
Glazing Damage from Occupant Contact

39. WS 1 40. LF 1 41. RF 1 42. LR 1 43. RR 1
44. BL 1 45. Roof 0 46. Other 1

- (0) No glazing
- (1) No occupant contact to glazing
- (2) Glazing contacted by occupant but no glazing damage
- (3) Glazing in place and cracked by occupant contact
- (4) Glazing in place and holed by occupant contact
- (5) Glazing out-of-place (cracked or not) by occupant contact and not holed by occupant contact
- (6) Glazing out-of-place by occupant contact and holed by occupant contact
- (7) Glazing removed prior to accident
- (8) Glazing disintegrated by occupant contact
- (9) Unknown if contacted by occupant

INTRUSION WORKSHEET

NOTE: SKETCH INTRUDED AREAS



LOCATION OF INTRUSION	INTRUDED COMPONENT	(All Measurements Are In Centimeters)			DOMINANT CRUSH DIRECTION
		COMPARISON VALUE	INTRUDED VALUE	INTRUSION	
13	Side	64.8 cm	57.2 cm	7.6 cm	Lat
13	Door	67.3 cm	57.2 cm	10.1 cm	Lat
13	Seat	59.7 cm	55.9 cm	3.8 cm	Lat
23	Door	69.9 cm	59.7 cm	10.2 cm	Lat
23	Side	69.9 cm	58.4 cm	11.5 cm	Lat
13	B-pillar	67.3 cm	59.7 cm	7.6 cm	Lat
		-		=	
		-		=	
		-		=	
		-		=	
		-		=	
		-		=	
		-		=	
		-		=	
		-		=	
		-		=	

Document no more than the 15 most severe intrusions

OCCUPANT AREA INTRUSION

Note: If no intrusions, leave variables IV47-IV86 blank.

	Location of Intrusion	Intruding Component	Magnitude of Intrusion	Dominant Crush Direction
1st	47. <u>23</u>	48. <u>18</u>	49. <u>2</u>	50. <u>3</u>
2nd	51. <u>23</u>	52. <u>11</u>	53. <u>2</u>	54. <u>3</u>
3rd	55. <u>13</u>	56. <u>11</u>	57. <u>2</u>	58. <u>3</u>
4th	59. <u>13</u>	60. <u>18</u>	61. <u>2</u>	62. <u>3</u>
5th	63. <u>13</u>	64. <u>07</u>	65. <u>1</u>	66. <u>3</u>
6th	67. <u>13</u>	68. <u>25</u>	69. <u>1</u>	70. <u>3</u>
7th	71. _____	72. _____	73. _____	74. _____
8th	75. _____	76. _____	77. _____	78. _____
9th	79. _____	80. _____	81. _____	82. _____
10th	83. _____	84. _____	85. _____	86. _____

LOCATION OF INTRUSION

Front Seat

- (11) Left
(12) Middle
(13) Right

Second Seat

- (21) Left
(22) Middle
(23) Right

Third Seat

- (31) Left
(32) Middle
(33) Right

Fourth Seat

- (41) Left
(42) Middle
(43) Right

- (97) Catastrophic
(98) Other enclosed area (specify)

(99) Unknown

INTRUDING COMPONENT

Interior Components

- (01) Steering assembly
(02) Instrument panel left
(03) Instrument panel center
(04) Instrument panel right
(05) Toe pan
(06) A (A1/A2)-pillar
(07) B-pillar
(08) C-pillar
(09) D-pillar
(10) Side panel - forward of the A1/A2-pillar
(11) Door panel (side)
(12) Side panel - rear of the B-pillar
(13) Roof (or convertible top)
(14) Roof side rail
(15) Windshield
(16) Windshield header
(17) Window frame
(18) Floor pan (includes sill)
(19) Backlight header
(20) Front seat back
(21) Second seat back
(22) Third seat back
(23) Fourth seat back
(24) Fifth seat back
(25) Seat cushion
(26) Back door/panel (e.g., tailgate)
(27) Other interior component (specify): _____

Exterior Components

- (30) Hood
(31) Outside surface of this vehicle (specify): _____
(32) Other exterior object in the environment (specify): _____
(33) Unknown exterior object
(97) Catastrophic
(98) Intrusion of unlisted component(s) (specify): _____
(99) Unknown

MAGNITUDE OF INTRUSION

- (1) ≥ 3 centimeters but < 8 centimeters
(2) ≥ 8 centimeters but < 15 centimeters
(3) ≥ 15 centimeters but < 30 centimeters
(4) ≥ 30 centimeters but < 46 centimeters
(5) ≥ 46 centimeters but < 61 centimeters
(6) ≥ 61 centimeters
(7) Catastrophic
(9) Unknown

DOMINANT CRUSH DIRECTION

- (1) Vertical
(2) Longitudinal
(3) Lateral
(7) Catastrophic
(9) Unknown

STEERING COLUMN

INSTRUMENT PANEL

87. Steering Column Type

- (1) Fixed column
 (2) Tilt column
 (3) Telescoping column
 (4) Tilt and telescoping column
 (8) Other column type (specify): _____

(9) Unknown

88. Tilt Steering Column Adjustment

- (0) No tilt steering column
 (1) Full up
 (2) Between full up and center
 (3) Center
 (4) Between center and full down
 (5) Full down
 (9) Unknown

89. Telescoping Steering Column Adjustment

- (0) No telescoping steering column
 (1) Full back
 (2) Between full back and midpoint
 (3) Midpoint
 (4) Between midpoint and full forward
 (5) Full forward
 (9) Unknown

90. Steering Rim/Spoke Deformation

- Code actual measured
 deformation to the nearest centimeter
 (00) No steering rim deformation
 (01-14) Actual measured value in centimeters
 (15) 15 centimeters or more
 (98) Observed deformation cannot be measured
 (99) Unknown

91. Location of Steering Rim/Spoke Deformation

- (00) No steering rim deformation

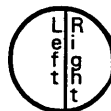
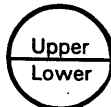
Quarter Sections

- (01) Section A
 (02) Section B
 (03) Section C
 (04) Section D



Half Sections

- (05) Upper half of rim/spoke
 (06) Lower half of rim/spoke
 (07) Left half of rim/spoke
 (08) Right half of rim/spoke
 (09) Complete steering wheel collapse
 (10) Undetermined location
 (99) Unknown



92. Odometer Reading

_____ kilometers
 Code to the nearest 1,000 kilometers

- (000) No odometer
 (001) Less than 1,500 kilometers
 (500) 499,500 kilometers or more
 (999) Unknown

_____ 5536 miles X 1.6093 = _____ 8909 kilometers

Source: _____

93. Instrument Panel Damage from Occupant Contact?

- (0) No
 (1) Yes
 (9) Unknown

94. Type of Knee Bolster Covering

- (0) No knee bolster
 (1) Padded
 (2) Rigid plastic
 (8) Other (specify): _____
 (9) Unknown

95. Knee Bolsters Deformed from Occupant Contact?

- (0) No knee bolster
 (1) No deformation
 (2) Yes - deformation
 (9) Unknown

96. Did Glove Compartment Door Open During Collision(s)?

- (0) No glove compartment door
 (1) No - door did not open
 (2) Yes - door opened
 (9) Unknown

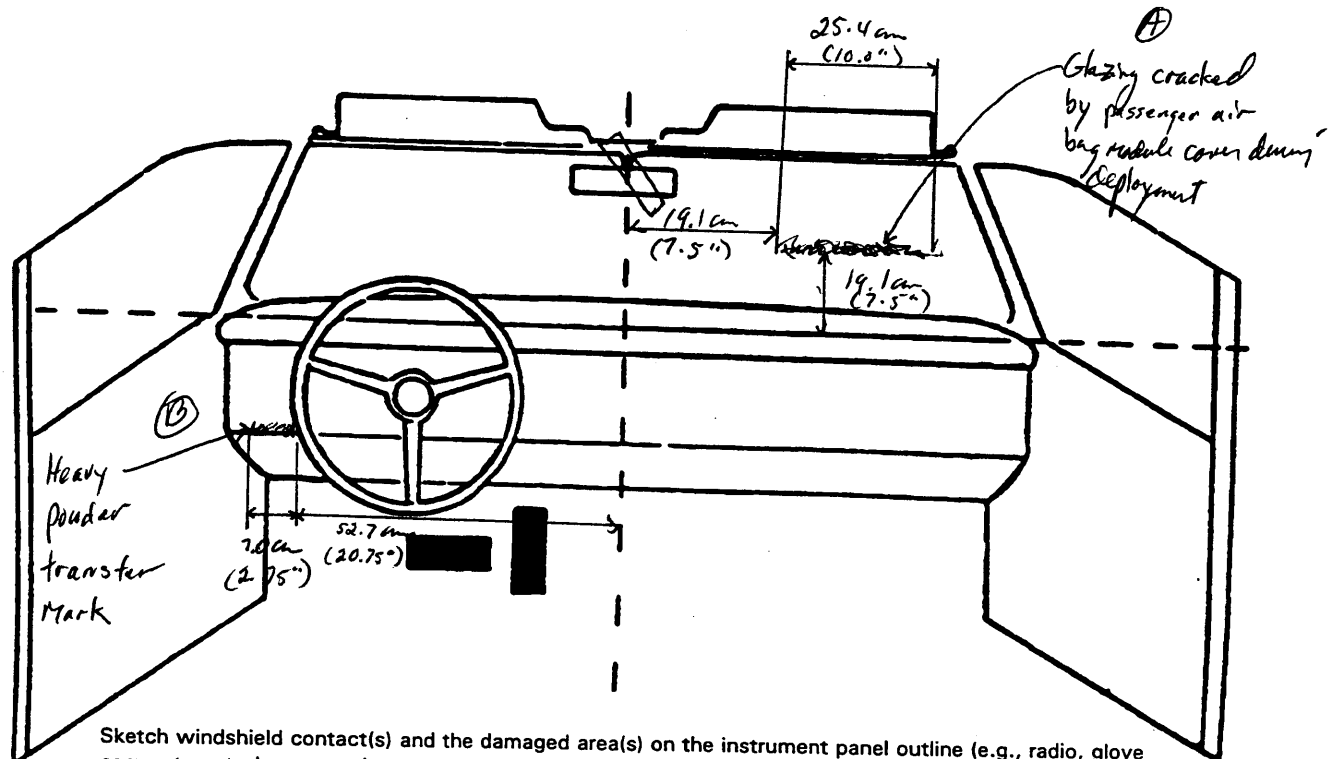
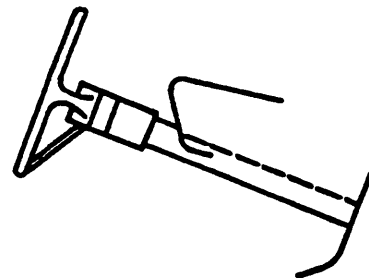
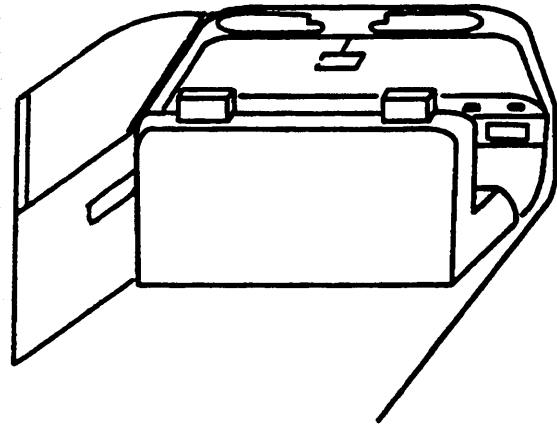
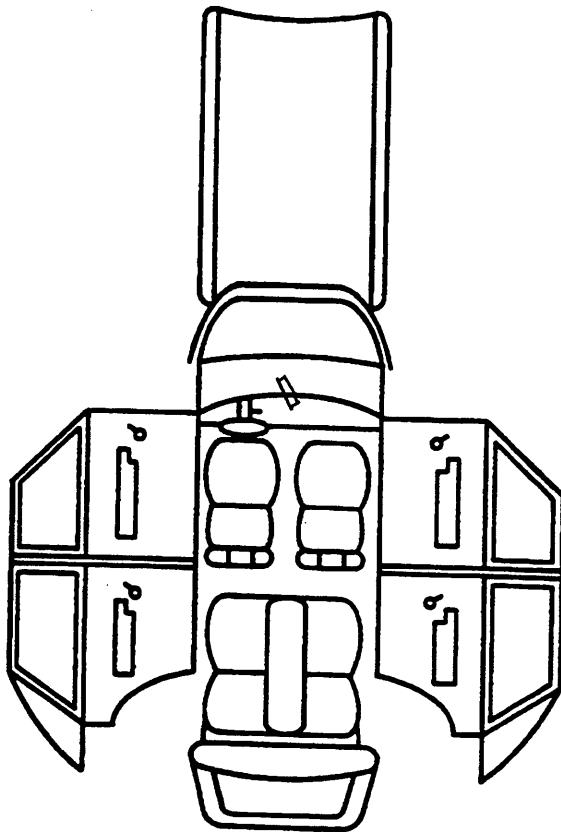
97. Adaptive (Assistive) Driving Equipment

- (0) No adaptive driving equipment
 (1) Adaptive driving equipment installed (Check all that apply.)
 [] Hand controls for braking/acceleration
 [] Steering control devices (attached to OEM steering wheel)
 [] Steering knob attached to steering wheel
 [] Low effort power steering (unit or device)
 [] Replacement steering wheel (i.e., reduced diameter)
 [] Joy-stick steering controls
 [] Wheelchair tie-downs
 [] Modification to seat belts (specify): _____
 [] Additional or relocated switches (specify): _____
 [] Raised roof
 [] Wall-mounted head rest (used behind wheelchair)
 [] Other adaptive device (specify): _____

(9) Unknown

VEHICLE INTERIOR SKETCHES

Note area of ejection/entrapment



Sketch windshield contact(s) and the damaged area(s) on the instrument panel outline (e.g., radio, glove compartment, damage to instrument panel structure).

Cross hatch contact points, draw spider webs or use other annotation as may be appropriate.

Annotate the contacted area with a letter (begin with A) and list on the Points of Occupant Contact page.

POINTS OF OCCUPANT CONTACT

Contact	Interior Component Contacted	Occupant No. If Known	Body Region If Known	Supporting Physical Evidence	Confidence Level of Contact Point
A	001	—	—	Lenia for Lenia from airbag Module cover	1
B	010	—	—	Heavy power transfer marks, not related to crash	1
C					
D					
E					
F					
G					
H					
I					
J					
K					
L					
M					
N					

FRONT

- (001) Windshield
 (002) Mirror
 (003) Sunvisor
 (004) Steering wheel rim
 (005) Steering wheel hub/spoke
 (006) Steering wheel (combination of codes 004 and 005)
 (007) Steering column, transmission selector lever, other attachment
 (008) Cellular telephone or CB radio
 (009) Add on equipment (e.g., tapedeck, air conditioner)
 (010) Left instrument panel and below
 (011) Center instrument panel and below
 (012) Right instrument panel and below
 (013) Glove compartment door
 (014) Knee bolster
 (015) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
 (016) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
 (017) Windshield reinforced by exterior object, (specify):
 (019) Other front object (specify):

CODES FOR INTERIOR COMPONENTS

LEFT SIDE

- (051) Left side interior surface, excluding hardware or armrests
 (052) Left side hardware or armrest
 (053) Left A (A1/A2)-pillar
 (054) Left B-pillar
 (055) Other left pillar (specify):
 (056) Left side window glass
 (057) Left side window frame
 (058) Left side window sill
 (059) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
 (060) Other left side object (specify):

RIGHT SIDE

- (101) Right side interior surface, excluding hardware or armrests
 (102) Right side hardware or armrest
 (103) Right A (A1/A2)-pillar
 (104) Right B-pillar
 (105) Other right pillar (specify):
 (106) Right side window glass
 (107) Right side window frame
 (108) Right side window sill
 (109) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
 (110) Other right side object (specify):

INTERIOR

- (151) Seat, back support
 (152) Belt restraint webbing/buckle
 (153) Belt restraint B-pillar or door frame attachment point
 (154) Other restraint system component (specify):
 (155) Head restraint system
 (160) Other occupants (specify):
 (161) Interior loose objects
 (162) Child safety seat (specify):
 (163) Other interior object (specify):

AIR BAG

- (170) Air bag-driver side
 (175) Air bag compartment cover-driver side
 (180) Air bag-passenger side
 (185) Air bag compartment cover-passenger side
 (190) Other air bag (specify):
 (195) Other air bag compartment cover (specify):

ROOF

- (201) Front header
 (202) Rear header
 (203) Roof left side rail
 (204) Roof right side rail
 (205) Roof or convertible top

FLOOR

- (251) Floor (including toe pan)
 (252) Floor or console mounted transmission lever, including console
 (253) Parking brake handle
 (254) Foot controls including parking brake

REAR

- (301) Backlight (rear window)
 (302) Backlight storage rack, door, etc.
 (303) Other rear object (specify):

ADAPTIVE (ASSISTIVE) DRIVING EQUIPMENT

- (401) Hand controls for braking/acceleration
 (402) Steering control devices (attached to OEM steering wheel)
 (403) Steering knob attached to steering wheel
 (405) Replacement steering wheel (i.e., reduced diameter)
 (406) Joy stick steering controls
 (407) Wheelchair tie-downs
 (408) Modification to seat belts, (specify):
 (409) Additional or relocated switches, (specify):
 (410) Raised roof
 (411) Wall mounted head rest (used behind wheel chair)
 (412) Other adaptive device (specify):

CONFIDENCE LEVEL OF CONTACT POINT

- (1) Certain
 (2) Probable
 (3) Possible
 (9) Unknown

MANUAL RESTRAINTS

NOTES: Encode the applicable data for each seat position in the vehicle. The attribute for the variable may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

If a child safety seat is present, encode the data on the back of this page 11.

If the vehicle has automatic restraints available, encode the appropriate data on page 6.

		Left	Center	Right
FIRST	A-Availability	4 w/pretension	/	4 w/pretension
	B-Evidence of usage	4	/	00
	C-Used in this crash?	4	/	0
	D-Proper Use	1	/	0
	E-Failure Modes	1	/	0
	F-Anchorage Adjustment	1	/	1
SECOND	A-Availability	04	03	04
	B-Evidence of usage	00	00	00
	C-Used in this crash?	0	0	0
	D-Proper Use	/	/	/
	E-Failure Modes	/	/	/
	F-Anchorage Adjustment	/	/	/
OTHER	A-Availability	/	/	/
	B-Evidence of usage	/	/	/
	C-Used in this crash?	/	/	/
	D-Proper Use	/	/	/
	E-Failure Modes	/	/	/
	F-Anchorage Adjustment	/	/	/

A-Manual (Active) Belt System Availability

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available - type unknown

Integral Belt Partially Destroyed

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)
- (8) Other belt (specify):

- (9) Unknown

B/C-Manual (Active) Belt System Use

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperable (specify):

- (02) Shoulder belt
- (03) Lap belt
- (04) Lap and shoulder belt
- (05) Belt used - type unknown
- (08) Other belt used (specify):
- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat - type unknown
- (18) Other belt used with child safety seat (specify):
- (99) Unknown if belt used

D-Proper Use of Manual (Active) Belts

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

Belt Used Improperly

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify):
- (8) Other improper use of manual belt system (specify):
- (9) Unknown

E-Manual (Active) Belt Failure Modes During Accident

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):
- (6) Broken retractor
- (7) Combination of above (specify):
- (8) Other manual belt failure (specify):
- (9) Unknown

F-Shoulder Belt Upper Anchorage Adjustment

- (0) No shoulder belt
- (1) No upper anchorage adjustment for shoulder belt

Adjustable shoulder Belt Upper Anchorage

- (2) In full up position
- (3) In mid position
- (4) In full down position
- (5) Position unknown
- (9) Unknown if position has adjustable upper anchorage adjustment

AUTOMATIC RESTRAINTS

NOTES: Encode the data for each applicable front seat position. The attribute for the variables may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

AIR BAGS

		Frontal Air Bags--Left Front	Frontal Air Bags-Right Front	Other Air Bag
F I R S T	Availability/Function	/	/	0
	Deployment	/	/	0
	Failure	/	/	0

Air Bag System Availability/Function

- (0) Not equipped/not available
(1) Air bag

Non-functional

- (2) Air bag disconnected (specify): _____

- (3) Air bag not reinstalled
(9) Unknown

**Air Bag System Deployment
(This Occupant Position)**

- (0) Not equipped/not available
(1) Deployed during accident (as a result of impact)
(2) Deployed inadvertently just prior to accident
(3) Deployed, accident sequence undetermined
(4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
(5) Unknown if deployed
(7) Nondeployed
(9) Unknown

Are There Indications of Air Bag System Failure? (This Occupant Position)

- (0) Not equipped/not available
(1) No
(2) Yes (specify): _____
(9) Unknown

AUTOMATIC BELTS

		Left	Right
F I R S T	A-Availability/Function	/	/
	B-Use	/	/
	C-Type	/	/
	D-Proper Use	/	/
	E-Failure Modes	/	/

A-Automatic (Passive) Belt System Availability/Function

- (0) Not equipped/not available
(1) 2 point automatic belts
(2) 3 point automatic belts
(3) Automatic belts - type unknown

Non-functional

- (4) Automatic belts destroyed or rendered inoperative
(9) Unknown

B-Automatic (Passive) Belt System Use

- (0) Not equipped/not available/destroyed or rendered inoperative
(1) Automatic belt in use
(2) Automatic belt not in use (manually disconnected, motorized track inoperative)
(3) Automatic belt use unknown
(9) Unknown

C-Automatic (Passive) Belt System Type

- (0) Not equipped/not available
(1) Non-motorized system
(2) Motorized system
(9) Unknown

D-Proper Use of Automatic (Passive) Belt System

- (0) Not equipped/not available/not used
(1) Automatic belt used properly
(2) Automatic belt used properly with child safety seat

Automatic Belt Used Improperly

- (3) Automatic shoulder belt worn under arm
(4) Automatic shoulder belt worn behind back
(5) Automatic belt worn around more than one person
(6) Lap portion of automatic belt worn on abdomen
(7) Automatic lap and shoulder belt or

automatic shoulder belt used improperly
with child safety seat (specify): _____

- (8) Other improper use of automatic belt system (specify): _____
(9) Unknown

E-Automatic (Passive) Belt Failure Modes During Accident

- (0) Not equipped/not available/not in use
(1) No automatic belt failure(s)
(2) Torn webbing (stretched webbing not included)
(3) Broken buckle or latchplate
(4) Upper anchorage separated
(5) Other anchorage separated (specify): _____
(6) Broken retractor
(7) Combination of above (specify): _____
(8) Other automatic belt failure (specify): _____
(9) Unknown

FIRST SEAT FRONTAL AIR BAGS

NOTES: Encode the applicable data *for the driver and first seat passenger* in the vehicle. The attribute for the variable may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

	Driver	Passenger
A-Type of air bag?	1	1
B-Flaps open at tear points?	2	2
C-Flaps damaged?	2	2
D-Air bag damaged?	01	01
E-Source of air bag damage	01	01
F-Air bag tethered?	2 (4 tethers)	0
G-Air bag have vent ports?	2 (2 vent ports)	0
H-Other occupant contact air bag?	NA Contact lenses	—
I-Occupant wearing eyewear?	—	—

A-Type of Air Bag

- (0) Not equipped/not available
- (1) Original manufacturer installed system
- (2) Retrofitted air bag
- (3) Replacement air bag
- (8) Unknown type of air bag
- (9) Unknown

B-Did Air Bag Module Cover Flap(s) Open At Designated Tear Points?

- (0) Not equipped/not available
- (1) No
- (2) Yes
- (3) Deployed, unknown if flap(s) opened at designated tear points
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

C-Were Air Bag Module Cover Flap(s) Damaged?

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify):
Scuff mark on both flaps
- (3) Deployed, unknown if air bag module cover flap(s) damaged
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

D-Was There Damage To The Air Bag?

- (00) Not equipped/not available
- (01) Not damaged

Yes - Air Bag Damage

- (02) Ruptured
- (03) Cut
- (04) Torn
- (05) Holed
- (06) Burned
- (07) Abraded
- (88) Other damage (specify):

- (95) Damaged, details unknown
- (96) Deployed, unknown if damaged
- (97) Not deployed
- (98) Unknown if deployed
- (99) Unknown

E-Source of Air Bag Damage

- (00) Not equipped/not available
- (01) Not damaged
- (02) Object worn by occupant, (specify):
- (03) Object carried by occupant, (specify):
- (04) Adaptive/assistive controls, (specify):
- (05) Fire in vehicle
- (06) Thermal burns
- (07) Rescue or emergency efforts
- (88) Other damage source (specify):

- (95) Damaged, unknown source
- (96) Deployed, unknown if damaged
- (97) Not deployed
- (98) Unknown if deployed
- (99) Unknown

F-Was The Air Bag Tethered?

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify number of tether straps):
- (3) Deployed, unknown if tethered
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

G-Did The Air Bag Have Vent Ports?

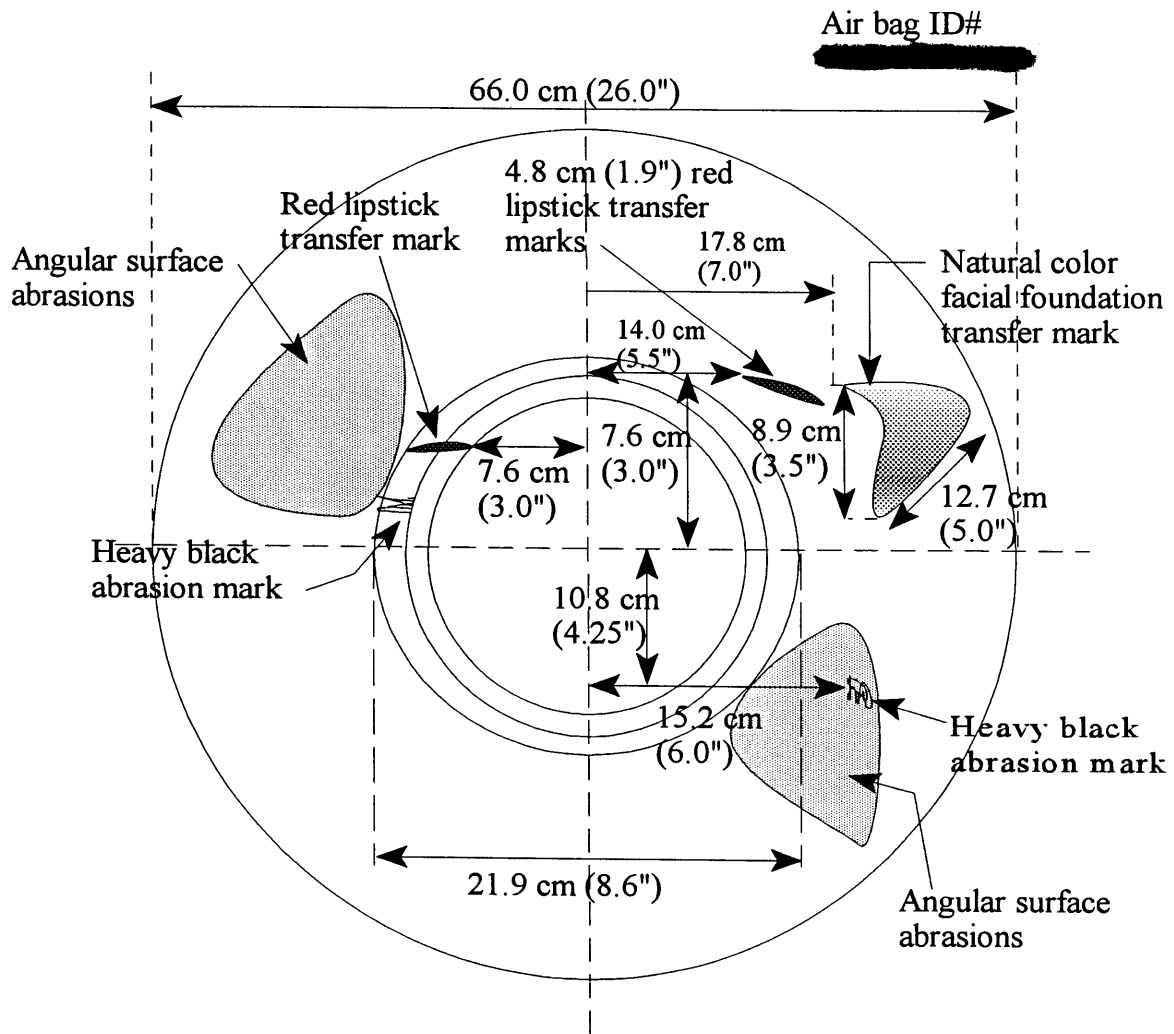
- (0) Not equipped/not available
- (1) No
- (2) Yes (specify number of vent ports):
- (3) Deployed, unknown if vent ports present
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

H-Was the Air Bag in this Occupant's Position Contacted by Another Occupant?

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify):
- (3) Deployed, unknown if other occupant contact to air bag
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

I-Was This Occupant Wearing Eye-wear?

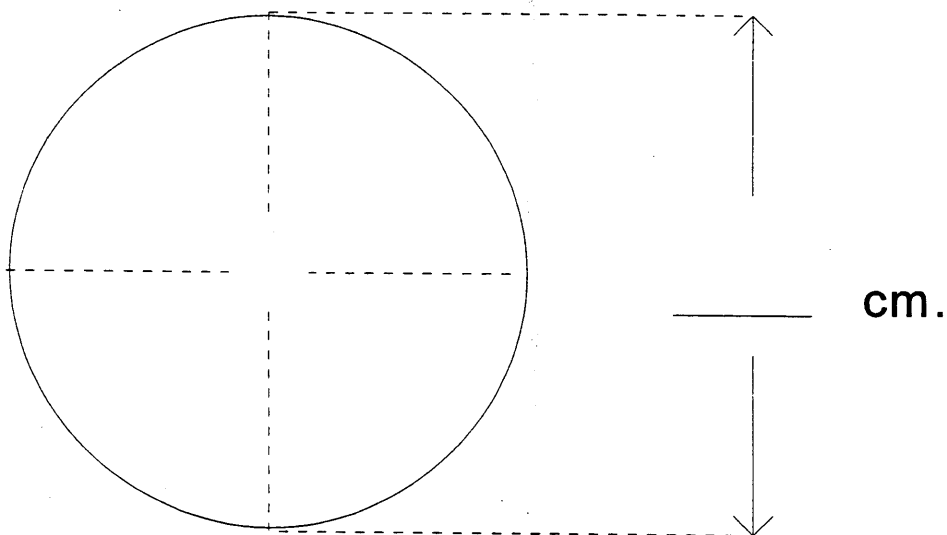
- (0) Not equipped/not available
- (1) No
- (2) Eyeglasses/sunglasses
- (3) Contact lenses
- (4) Deployed, unknown if eyewear worn
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown



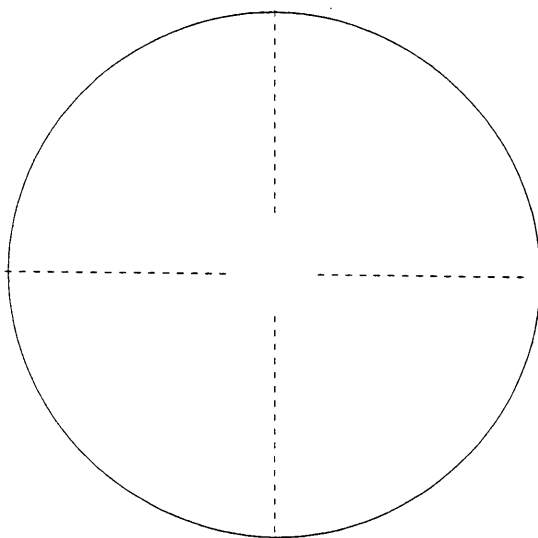
Vehicle #1- Contact Evidence on Driver Side Tethered Air Bag

DRIVER AIR BAG DAMAGE AND CONTACT SKETCHES

1. SKETCH DAMAGE AND CONTACT EVIDENCE ON DRIVER AIR BAG (Front)



2. SKETCH DAMAGE AND CONTACT EVIDENCE ON DRIVER AIR BAG (Back)

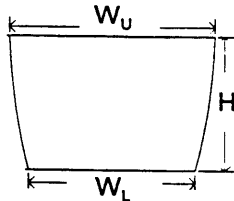


DRIVER AIR BAG SKETCHES (Cont'd)

3. DRIVER AIR BAG MODULE COVER FLAP SIZE (SINGLE)

width (W_U) _____ width (W_L) _____

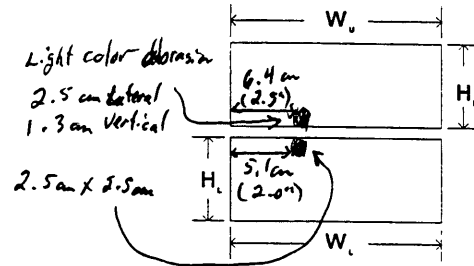
height (H) _____



4. DRIVER AIR BAG MODULE COVER FLAP SIZE (DOUBLE)

a. Upper Flap

b. Lower Flap

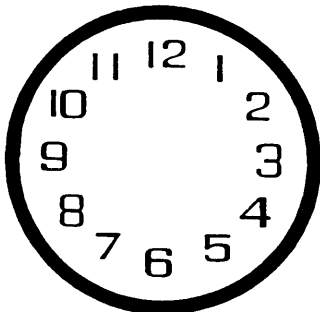
width (W_U) 17.1 cm width (W_L) 17.1 cmheight (H_U) 6.4 cm height (H_L) 5.1 cm

6.4 mm (0.25") flap thickness
vinyl flaps

5. SKETCH OF OTHER TYPE OF AIR BAG MODULE FLAP AND SIZE

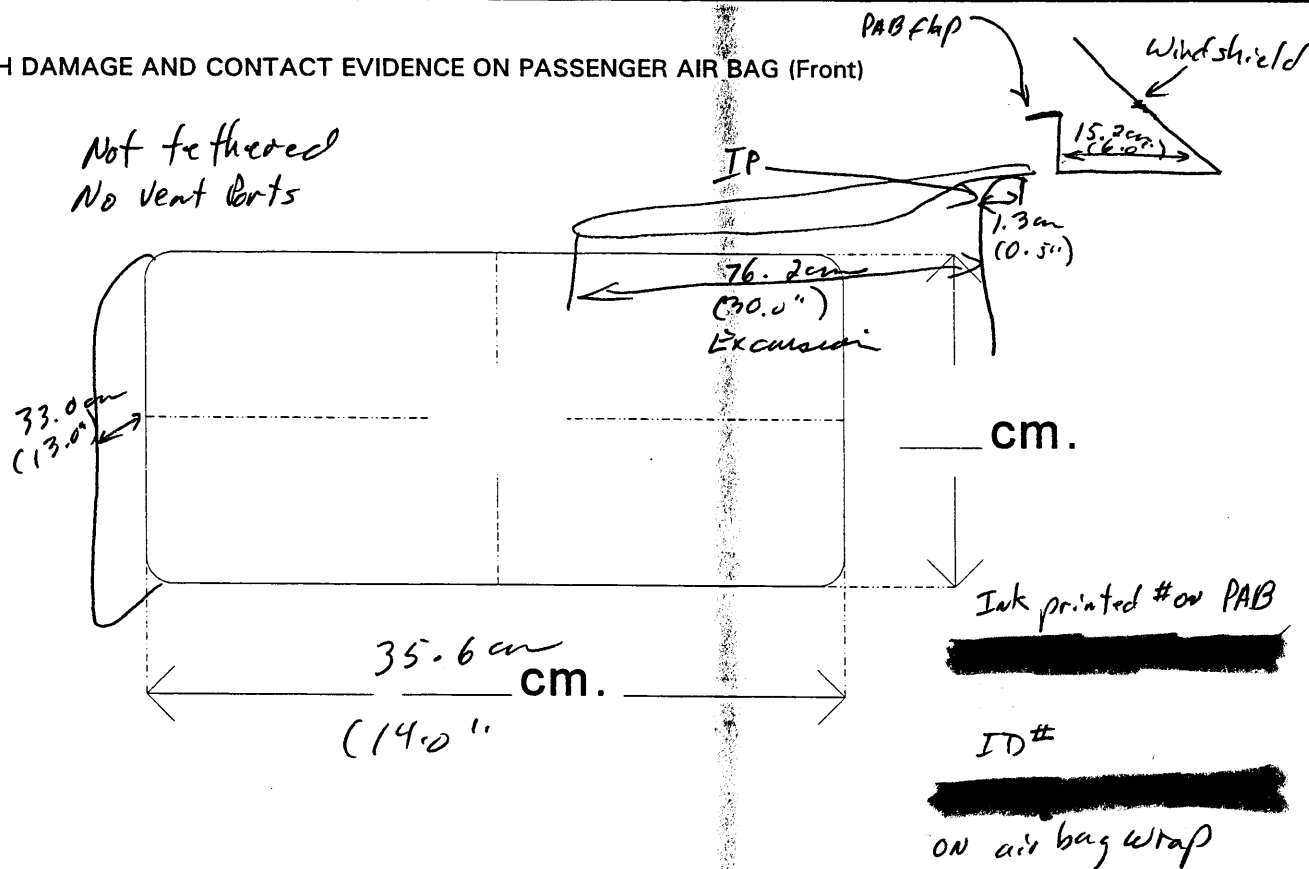
6. SKETCH OF OTHER TYPE OF AIR BAG VENT PORTS

7. SKETCH LOCATION OF CIRCULAR AIR BAG VENT PORTS

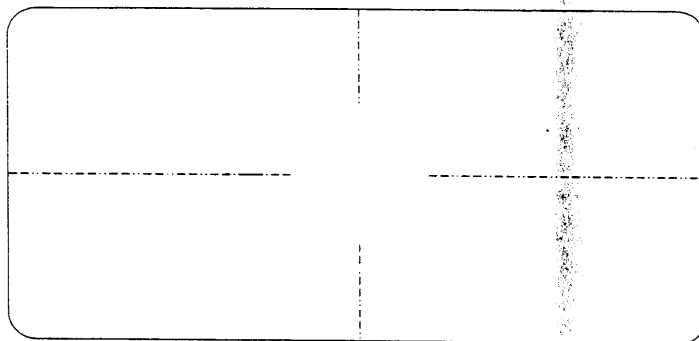


PASSENGER AIR BAG DAMAGE AND CONTACT SKETCHES

1. SKETCH DAMAGE AND CONTACT EVIDENCE ON PASSENGER AIR BAG (Front)



2. SKETCH DAMAGE AND CONTACT EVIDENCE ON PASSENGER AIR BAG (Back)

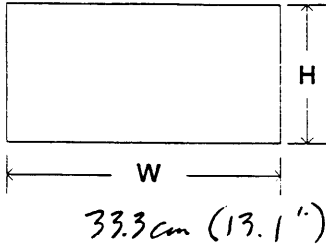


PASSENGER AIR BAG SKETCHES (Cont'd)

3. PASSENGER AIR BAG MODULE COVER FLAP SIZE (SINGLE)

width (W) _____

height (H) _____



4. PASSENGER AIR BAG MODULE COVER FLAP SIZE (DOUBLE)

a. Upper Flap

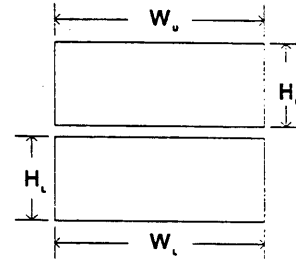
b. Lower Flap

width (W_U) _____

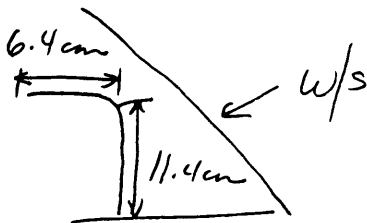
width (W_L) _____

height (H_U) _____

height (H_L) _____



5. SKETCH OF OTHER TYPE OF AIR BAG MODULE FLAP AND SIZE



6. SKETCH OF OTHER TYPE OF AIR BAG VENT PORTS

7. SKETCH LOCATION OF RECTANGULAR AIR BAG VENT PORTS

10	11	12	1	2
9				3
8	7	6	5	4

"OTHER" AIR BAG DAMAGE AND CONTACT SKETCHES

1. SKETCH DAMAGE AND CONTACT EVIDENCE ON "OTHER" AIR BAG (Front)

2. SKETCH DAMAGE AND CONTACT EVIDENCE ON "OTHER" AIR BAG (Back)

"OTHER" AIR BAG SKETCHES (Cont'd)

3. SKETCH AIR BAG MODULE FLAP AND SIZE OR OPENING FOR AIRBAG

4. SKETCH AIR BAG VENT PORTS

HEAD RESTRAINTS/SEAT EVALUATION

NOTES: Encode the applicable data for each seat position in the vehicle. The attribute for these variables may be found at the bottom of the page. Head restraint type/damage and seat type/performance should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

		Left	Center	Right
FIRST	A-Head Restraint Type/Damage	1	/	1
	B-Seat Type	01		01
	C-Seat Orientation	1		1
	D-Seat Track Position	3		5
	E-Seat Back Incline Pre/Post Impact	23		23
	F-Seat Performance	1		1
SECOND	A-Head Restraint Type/Damage	1	0	1
	B-Seat Type	03	03	03
	C-Seat Orientation	1	1	1
	D-Seat Track Position	1	1	1
	E-Seat Back Incline Pre/Post Impact	01		
	F-Seat Performance	1	1	1
THIRD	A-Head Restraint Type/Damage	/	/	/
	B-Seat Type			
	C-Seat Orientation			
	D-Seat Track Position			
	E-Seat Back Incline Pre/Post Impact			
	F-Seat Performance			
OTHER	A-Head Restraint Type/Damage	/	/	/
	B-Seat Type			
	C-Seat Orientation			
	D-Seat Track Position			
	E-Seat Back Incline Pre/Post Impact			
	F-Seat Performance			

**DESCRIBE ANY INDICATION OF ABNORMAL OCCUPANT POSTURE
(I.E., UNUSUAL OCCUPANT CONTACT PATTERN)**

HEAD RESTRAINTS/SEAT EVALUATION**A-Head Restraint Type/Damage by Occupant at This Occupant Position**

- (0) No head restraints
- (1) Integral — no damage
- (2) Integral — damaged during accident
- (3) Adjustable — no damage
- (4) Adjustable — damaged during accident
- (5) Add-on — no damage
- (6) Add-on — damaged during accident
- (8) Other
Specify: _____
- (9) Unknown

B-Seat Type (this Occupant Position)

- (00) Occupant not seated or no seat
- (01) Bucket
- (02) Bucket with folding back
- (03) Bench
- (04) Bench with separate back cushions
- (05) Bench with folding back(s)
- (06) Split bench with separate back cushions
- (07) Split bench with folding back(s)
- (08) Pedestal (i.e., column supported)
- (09) Box mounted seat (i.e., van type)
- (10) Other seat type (specify): _____
- (99) Unknown

C-Seat Orientation (this Occupant Position)

- (0) Occupant not seated or no seat
- (1) Forward facing seat
- (2) Rear facing seat
- (3) Side facing seat (inward)
- (4) Side facing seat (outward)
- (8) Other (specify): _____
- (9) Unknown

D-Seat Track Adjusted Position Prior To Impact

- (0) Occupant not seated or no seat
- (1) Non-adjustable seat track

Adjustable Seat Track

- (2) Seat at forward most track position
- (3) Seat between forward most and middle track positions
- (4) Seat at middle track position
- (5) Seat between middle and rear most track positions
- (6) Seat at rear most track position
- (9) Unknown

E-Seat Back Incline Prior and Post Impact

- (00) Occupant not seated or no seat
- (01) Not adjustable

Upright prior to impact

- (11) Moved to completely rearward position
- (12) Moved to rearward midrange position
- (13) Moved to slightly rearward position
- (14) Retained pre-impact position
- (15) Moved to slightly forward position
- (16) Moved to forward midrange position
- (17) Moved to completely forward position

Slightly reclined prior to impact

- (21) Moved to completely rearward position
- (22) Moved to rearward midrange position
- (23) Retained pre-impact position
- (24) Moved to upright position
- (25) Moved to slightly forward position
- (26) Moved to forward midrange position
- (27) Moved to completely forward position

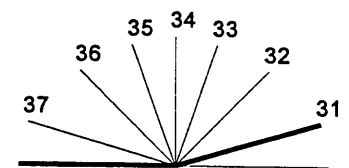
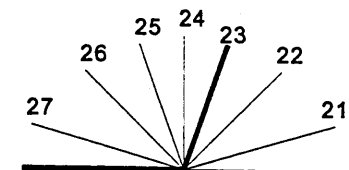
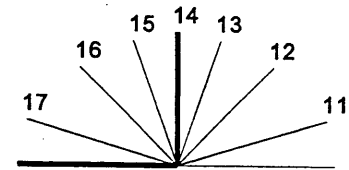
Completely reclined prior to impact

- (31) Retained pre-impact position
- (32) Moved to rearward midrange position
- (33) Moved to slightly rearward position
- (34) Moved to upright position
- (35) Moved to slightly forward position
- (36) Moved to forward midrange position
- (37) Moved to completely forward position

- (99) Unknown

F-Seat Performance (this Occupant Position)

- (0) Occupant not seated or no seat
- (1) No seat performance failure(s)
- (2) Seat adjusters failed
- (3) Seat back folding locks or "seat back" failed (specify): _____
- (4) Seat tracks/anchors failed
- (5) Deformed by impact of occupant
- (6) Deformed by passenger compartment intrusion (specify): _____
- (7) Combination of above (specify): _____
- (8) Other (specify): _____
- (9) Unknown

Coding diagrams for *Seat Back Incline Position Prior and Post Impact*

CHILD SAFETY SEAT FIELD ASSESSMENT

When a child safety seat is present enter the occupant's number in the first row and complete the column below the occupant's number using the codes listed below. Complete a column for each child safety seat present.

Occupant Number						
1. Type of Child Safety Seat						
2. Child Safety Seat Orientation						
3. Child Safety Seat Harness Usage						
4. Child Safety Seat Shield Usage						
5. Child Safety Seat Tether Usage						
6. Child Safety Seat Make/Model	Specify Below for Each Child Safety Seat					

1. Type of Child Safety Seat

- (0) No child safety seat
- (1) Infant seat
- (2) Toddler seat
- (3) Convertible seat
- (4) Booster seat
- (7) Other type child safety seat (specify):

- (8) Unknown child safety seat type
- (9) Unknown if child safety seat used

2. Child Safety Seat Orientation

- (00) No child safety seat
- Designed for Rear Facing for This Age/Weight
- (01) Rear facing
- (02) Forward facing
- (08) Other orientation (specify):

- (09) Unknown orientation

Designed for Forward Facing for This Age/Weight

- (11) Rear facing
- (12) Forward facing
- (18) Other orientation (specify):

- (19) Unknown orientation

Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight

- (21) Rear facing
- (22) Forward facing
- (28) Other orientation (specify):

- (29) Unknown orientation

- (99) Unknown if child safety seat used

3. Child Safety Seat Harness Usage

4. Child Safety Seat Shield Usage

5. Child Safety Seat Tether Usage

Note: Options Below Are Used for Variables 3-5.

- (00) No child safety seat

Not Designed with Harness/Shield/Tether

- (01) After market harness/shield/tether added, not used
- (02) After market harness/shield/tether used
- (03) Child safety seat used, but no after market harness/shield/tether added
- (09) Unknown if harness/shield/tether added or used

Designed With Harness/Shield/Tether

- (11) Harness/shield/tether not used
- (12) Harness/shield/tether used
- (19) Unknown if harness/shield/tether used

Unknown If Designed With Harness/Shield/Tether

- (21) Harness/shield/tether not used
- (22) Harness/shield/tether used
- (29) Unknown if harness/shield/tether used

- (99) Unknown if child safety seat used

6. Child Safety Seat Make/Model

(Specify make/model and occupant number)

EJECTION/ENTRAPMENT DATA

Complete the following if the researcher has any indication that an occupant was either ejected from or entrapped in the vehicle. Code the appropriate data on the Occupant Assessment Form.

EJECTION No [☒] Yes []

Describe indications of ejection and body parts involved in partial ejection(s):

Occupant Number						
Ejection						
(Note on Vehicle Interior Sketch) Ejection Area						
Ejection Medium						
Medium Status						

Ejection

- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, Unknown degree
- (9) Unknown

Ejection Area

- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear

(7) Roof

- (8) Other area (e.g., back of pickup, etc.) (specify):

(9) Unknown**Ejection Medium**

- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify):

(5) Integral structure

- (8) Other medium (specify):

(9) Unknown**Medium Status (Immediately Prior to Impact)**

- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

ENTRAPMENT No [☒] Yes []

Describe entrapment mechanism:

Component(s):

(Note on vehicle interior sketch)



OCCUPANT ASSESSMENT FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number

2. Case Number - Stratum

3. Vehicle Number

4. Occupant Number

OCCUPANT'S CHARACTERISTICS

5. Occupant's Age

Code actual age at time of accident.

(00) Less than one year old (specify by month):

(97) 97 years and older

(99) Unknown

6. Occupant's Sex

(1) Male

(2) Female-not reported pregnant

(3) Female-pregnant-1st trimester(1st-3rd month)

(4) Female-pregnant-2nd trimester(4th-6th month)

(5) Female-pregnant-3rd trimester(7th-9th month)

(6) Female-pregnant-term unknown

(9) Unknown

7. Occupant's Height

Code actual height to the nearest
centimeter.

(999) Unknown

___ inches X 2.54 = ___ centimeters

8. Occupant's Weight

Code actual weight to the nearest
kilogram.

(999) Unknown

___ pounds X .4536 = ___ kilograms

9. Occupant's Role

(1) Driver

(2) Passenger

(9) Unknown

OCCUPANT'S SEATING

10. Occupant's Seat Position

Front Seat

(11) Left side

(12) Middle

(13) Right side

(14) Other (specify):

(15) On or in the lap of another occupant

Second Seat

(21) Left side

(22) Middle

(23) Right side

(24) Other (specify):

(25) On or in the lap of another occupant

Third Seat

(31) Left side

(32) Middle

(33) Right side

(34) Other (specify):

(35) On or in the lap of another occupant

Fourth Seat

(41) Left side

(42) Middle

(43) Right side

(44) Other (specify):

(45) On or in the lap of another occupant

(97) In or on unenclosed area

(98) Other seat (specify):

(99) Unknown

11. Occupant's Posture

(0) Normal posture

Abnormal posture

(1) Kneeling or standing on seat

(2) Lying on or across seat

(3) Kneeling, standing or sitting in front of seat

(4) Sitting sideways or turned to talk with
another occupant or to look out a rear
window

(5) Sitting on a console

(6) Lying back in a reclined seat position

(7) Bracing with feet or hands on a surface in
front of seat

(8) Other abnormal posture (specify):

(9) Unknown

EJECTION/ENTRAPMENT

12. Ejection

- (0) No ejection
- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, unknown degree
- (9) Unknown

0

13. Ejection Area

- (0) No ejection
- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear
- (7) Roof
- (8) Other area (e.g., back of pickup, etc.)
(specify): _____
- (9) Unknown

0

14. Ejection Medium

- (0) No ejection
- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify): _____
- (5) Integral structure
- (8) Other medium (specify): _____
- (9) Unknown

0

15. Medium Status (Immediately Prior To Impact)

- (0) No ejection
- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

0

16. Entrapment

- (0) Not entrapped/exit not inhibited
- (1) Entrapped/pinned - mechanically restrained
- (2) Could not exit vehicle due to jammed doors, fire, etc.
(specify): _____
- (9) Unknown

0

17. Occupant Mobility

- (0) Occupant fatal before removed from vehicle
- (1) Removed from vehicle while unconscious or not oriented to time or place
- (2) Removed from vehicle due to perceived serious injuries
- (3) Exited vehicle with some assistance
- (4) Exited vehicle under own power
- (5) Occupant fully ejected
- (8) Removed from vehicle for other reasons
(specify): _____
- (9) Unknown

2

BELT SYSTEM FUNCTION

18. Manual (Active) Belt System Availability 4

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available—type unknown

Integral Belt Partially Destroyed

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)
- (8) Other belt (specify): _____

(9) Unknown

19. Manual (Active) Belt System Use 04

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperative (specify): _____

- (02) Shoulder belt
- (03) Lap belt
- (04) Lap and shoulder belt
- (05) Belt used—type unknown
- (08) Other belt used (specify): _____

- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat—type unknown
- (18) Other belt used with child safety seat (specify): _____
- (99) Unknown if belt used

20. Proper Use of Manual (Active) Belts +

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

Belt Used Improperly

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify): _____

(8) Other improper use of manual belt system (specify): _____

(9) Unknown

21. Manual (Active) Belt Failure Modes During Accident +

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify): _____

- (6) Broken retractor
- (7) Combination of above (specify): _____

(8) Other manual belt failure (specify): _____

(9) Unknown

22. Manual Shoulder Belt Upper Anchorage Adjustment +

- (0) No manual shoulder belt
- (1) No upper anchorage adjustment for manual shoulder belt

Adjustable shoulder Belt Upper Anchorage

- (2) In full up position
- (3) In mid position
- (4) In full down position
- (5) Position unknown
- (9) Unknown if position has adjustable upper anchorage adjustment

23. Automatic (Passive) Belt System Availability/Function 0

- (0) Not equipped/not available
- (1) 2 point automatic belts
- (2) 3 point automatic belts
- (3) Automatic belts - type unknown

Non-functional

- (4) Automatic belts destroyed or rendered inoperative
- (9) Unknown

24. Automatic (Passive) Belt System Use 0

- (0) Not equipped/not available/destroyed or rendered inoperative
- (1) Automatic belt in use
- (2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify): _____
- (3) Automatic belt use unknown
- (9) Unknown

25. Automatic (Passive) Belt System Type 0

- (0) Not equipped/not available
- (1) Non-motorized system
- (2) Motorized system
- (9) Unknown

26. Proper Use of Automatic (Passive) Belt System 0

- (0) Not equipped/not available/not used
- (1) Automatic belt used properly
- (2) Automatic belt used properly with child safety seat

Automatic Belt Used Improperly

- (3) Automatic shoulder belt worn under arm
- (4) Automatic shoulder belt worn behind back
- (5) Automatic belt worn around more than one person
- (6) Lap portion of automatic belt worn on abdomen
- (7) Automatic lap and shoulder belt or

automatic shoulder belt used improperly with child safety seat (specify): _____

- (8) Other improper use of automatic belt system (specify): _____
- (9) Unknown

27. Automatic (Passive) Belt Failure Modes During Accident 0

- (0) Not equipped/not available/not in use
- (1) No automatic belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify): _____

- (6) Broken retractor
- (7) Combination of above (specify): _____
- (8) Other automatic belt failure (specify): _____

(9) Unknown

POLICE REPORTED RESTRAINT USE

AIR BAG SYSTEM FUNCTION

28. Police Reported Belt Use 8

- (0) None used
 (1) Police did not indicate belt use
 (2) Shoulder belt
 (3) Lap belt
 (4) Lap and shoulder belt
 (5) Belt used, type not specified
 (6) Child safety seat
 (7) Automatic belt
 (8) Other type belt, (specify):

Air Bag / Harness
 (9) Police indicated "unknown"

29. Police Reported Air Bag Availability/Function 2

- (0) No air bag available
 (1) Police did not indicate air bag availability/function
 (2) Deployed
 (3) Not deployed
 (4) Unknown if deployed
 (9) Police indicated "unknown"

Check the Primary Source Used In Determining Belt Use.

- [] Vehicle inspection
 [] Official injury data
 [] Driver/occupant interview
 [] Other (specify):

[] Unknown if belt used

30. Frontal Air Bag System 1

Availability/Function
 (This Occupant Position)

- (0) Not equipped/not available
 (1) Air bag

Non-functional

- (2) Air bag disconnected (specify):

- (3) Air bag not reinstalled
 (9) Unknown

31. Frontal Air Bag System Deployment 1

(This Occupant Position)

- (0) Not equipped/not available
 (1) Deployed during accident (as a result of impact)
 (2) Deployed inadvertently just prior to accident
 (3) Deployed, details unknown
 (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
 (5) Unknown if deployed
 (7) Nondeployed
 (9) Unknown

32. Other Than First Seat Frontal Air Bag 0

Availability/Function
 (This Occupant Position)

- (0) Not equipped/not available
 (1) Air bag

Non-functional

- (2) Air bag disconnected (specify):

- (3) Air bag not reinstalled
 (9) Unknown

Specify type of "other" air bag present:

33. Air Bag(s) Deployment, Other Than First Seat Frontal (This Occupant Position) 0

(0) Not equipped with an "other" air bag

- (1) Deployed during accident (as a result of impact)
 (2) Deployed inadvertently just prior to accident
 (3) Deployed, details unknown
 (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
 (5) Unknown if deployed
 (7) Nondeployed
 (9) Unknown

34. Are There Indications of Air Bag System Failure?

(This Occupant Position)

- (0) Not equipped/not available
 (1) No
 (2) Yes (specify):

- (9) Unknown

FIRST SEAT FRONTAL AIR BAG SYSTEM EVALUATION

35. Had Vehicle Been in Previous Accident(s)? 1

- (0) Not equipped/not available
(1) No previous accidents

Yes

- (2) Previous accident(s) without deployment(s)
(3) One previous accident with deployment
(4) More than one previous accident with at least one deployment
(8) Previous accidents, unknown deployment status
(9) Unknown

36. Type of Air Bag 1

- (0) Not equipped/not available
(1) Original manufacturer installed system
(2) Retrofitted air bag
(3) Replacement air bag
(8) Unknown type of air bag
(9) Unknown

37. Had Any Prior Maintenance/Service Been Performed On This Air Bag System? 1

- (0) Not equipped/not available
(1) No prior maintenance
(2) Yes, prior maintenance (specify):
(9) Unknown

38. Air Bag Deployment Accident Event Sequence Number 01

- (00) Not equipped/not available
Code the accident event sequence number that initiated the air bag deployment
(96) Deployed, unknown event
(97) Not deployed
(98) Unknown if deployed
(99) Unknown

39. CDC For Air Bag Deployment Impact 1

- (0) Not equipped/not available
(1) Highest delta V
(2) Second highest delta V
(3) Other non-coded delta V (specify):
(6) Deployed, unknown event
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

40. Longitudinal Component of Delta V For Air Bag Deployment Impact +
001

- (_ 000) Not equipped/not available
Code the value of the delta V for the impact that initiated the air bag deployment
(_ 996) Deployment, unknown longitudinal Delta V
(_ 997) Not deployed
(_ 998) Unknown if deployed
(_ 999) Unknown

41. Did Air Bag Module Cover Flap(s) Open At Designated Tear Points? 2

- (0) Not equipped/not available
(1) No
(2) Yes
(3) Deployed, unknown if flap(s) opened at designated tear points
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

42. Were Air Bag Module Cover Flap(s) Damaged? 2

- (0) Not equipped/not available
(1) No
(2) Yes (specify): Scuff mark on flap - see car report
(3) Deployed, unknown if air bag module cover flap(s) damaged
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

43. Was There Damage To The Air Bag? 01

- (00) Not equipped/not available
(01) Not damaged

Yes - Air Bag Damage

- (02) Ruptured
(03) Cut
(04) Torn
(05) Holed
(06) Burned
(07) Abraded
(88) Other damage (specify):

- (95) Damaged, details unknown
(96) Deployed, unknown if damaged
(97) Not deployed
(98) Unknown if deployed
(99) Unknown

**FIRST SEAT FRONTAL AIR BAG SYSTEM
EVALUATION** *continued*

44. Source of Air Bag Damage 01
 (00) Not equipped/not available
 (01) Not damaged
 (02) Object worn by occupant, (specify):
 (03) Object carried by occupant, (specify):
 (04) Adaptive/assistive controls, (specify):
 (05) Fire in vehicle
 (06) Thermal burns
 (07) Rescue or emergency efforts
 (88) Other damage source (specify):
 (95) Damaged, unknown source
 (96) Deployed, unknown if damaged
 (97) Not deployed
 (98) Unknown if deployed
 (99) Unknown
45. Was The Air Bag Tethered? 2
 (0) Not equipped/not available
 (1) No
 (2) Yes (specify number of tether straps):
 (3) Deployed, unknown if tethered
 (7) Not deployed
 (8) Unknown if deployed
 (9) Unknown
46. Did The Air Bag Have Vent Ports? 2
 (0) Not equipped/not available
 (1) No
 (2) Yes (specify number of vent ports):
 (3) Deployed, unknown if vent ports present
 (7) Not deployed
 (8) Unknown if deployed
 (9) Unknown
47. Was the Air Bag in this Occupant's Position Contacted by Another Occupant? 1
 (0) Not equipped/not available
 (1) No
 (2) Yes (specify):
 (3) Deployed, unknown if other occupant contact to air bag
 (7) Not deployed
 (8) Unknown if deployed
 (9) Unknown
48. Was This Occupant Wearing Eye-wear? 3
 (0) Not air bag equipped/air bag not available
 (1) No
 (2) Eyeglasses/sunglasses
 (3) Contact lenses
 (4) Deployed, unknown if eyewear worn
 (7) Not deployed
 (8) Unknown if deployed
 (9) Unknown

HEAD RESTRAINT AND SEAT EVALUATION

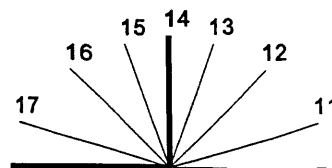
49. Head Restraint Type/Damage by Occupant at This Occupant Position 1
 (0) No head restraints
 (1) Integral—no damage
 (2) Integral—damaged during accident
 (3) Adjustable—no damage
 (4) Adjustable—damaged during accident
 (5) Add-on—no damage
 (6) Add-on—damaged during accident
 (8) Other (specify):
 (9) Unknown
50. Seat Type (this Occupant Position) 01
 (00) Occupant not seated or no seat
 (01) Bucket
 (02) Bucket with folding back
 (03) Bench
 (04) Bench with separate back cushions
 (05) Bench with folding back(s)
 (06) Split bench with separate back cushions
 (07) Split bench with folding back(s)
 (08) Pedestal (i.e., column supported)
 (09) Box mounted seat (i.e., van type)
 (10) Other seat type (specify):
 (99) Unknown
51. Seat Orientation (this Occupant Position) 1
 (0) Occupant not seated or no seat
 (1) Forward facing seat
 (2) Rear facing seat
 (3) Side facing seat (inward)
 (4) Side facing seat (outward)
 (8) Other (specify):
 (9) Unknown
52. Seat Track Adjusted Position Prior To Impact 3
 (0) Occupant not seated or no seat
 (1) Non-adjustable seat track
- Adjustable Seat Track*
 (2) Seat at forward most track position
 (3) Seat between forward most and middle track positions
 (4) Seat at middle track position
 (5) Seat between middle and rear most track positions
 (6) Seat at rear most track position
 (9) Unknown

HEAD RESTRAINT AND SEAT EVALUATION *continued*

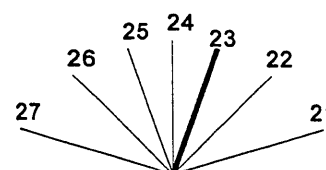
53. Seat Back Incline Prior and Post Impact 23
 (00) Occupant not seated or no seat
 (01) Not adjustable

Upright prior to impact

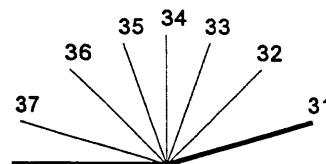
- (11) Moved to completely rearward position
 (12) Moved to rearward midrange position
 (13) Moved to slightly rearward position
 (14) Retained pre-impact position
 (15) Moved to slightly forward position
 (16) Moved to forward midrange position
 (17) Moved to completely forward position

***Slightly reclined prior to impact***

- (21) Moved to completely rearward position
 (22) Moved to rearward midrange position
 (23) Retained pre-impact position
 (24) Moved to upright position
 (25) Moved to slightly forward position
 (26) Moved to forward midrange position
 (27) Moved to completely forward position

***Completely reclined prior to impact***

- (31) Retained pre-impact position
 (32) Moved to rearward midrange position
 (33) Moved to slightly rearward position
 (34) Moved to upright position
 (35) Moved to slightly forward position
 (36) Moved to forward midrange position
 (37) Moved to completely forward position
 (99) Unknown



54. Seat Performance (this Occupant Position) 1
 (0) Occupant not seated or no seat
 (1) No seat performance failure(s)
 (2) Seat adjusters failed
 (3) Seat back folding locks or "seat back" failed (specify): _____
 (4) Seat track/anchors failed
 (5) Deformed by impact of occupant
 (6) Deformed by passenger compartment intrusion, (specify): _____
 (7) Combination of above (specify): _____
 (8) Other (specify): _____
 (9) Unknown

CHILD SAFETY SEAT

55. Child Safety Seat Make/Model 000
(000) No child safety seat
Applicable codes are found in your NASS CDS
Data Collection, Coding and Editing
(950) Built-in child safety seat
(997) Other make/model (specify):

(998) Unknown make/model
(999) Unknown if child safety seat used

56. Type of Child Safety Seat 0
(0) No child safety seat
(1) Infant seat
(2) Toddler seat
(3) Convertible seat
(4) Booster seat - with shield
(5) Booster seat - without shield
(7) Other type child safety seat (specify):

(8) Unknown child safety seat type
(9) Unknown if child safety seat used

57. Child Safety Seat Orientation 01
(00) No child safety seat

Designed for Rear Facing for This Age/Weight

(01) Rear facing
(02) Forward facing
(08) Other orientation (specify):

(09) Unknown orientation

Designed For Forward Facing for This Age/Weight

(11) Rear facing
(12) Forward facing
(18) Other orientation (specify):

(19) Unknown orientation

Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight

(21) Rear facing
(22) Forward facing
(28) Other orientation (specify):

(29) Unknown orientation

(99) Unknown if child safety seat used

58. Child Safety Seat Harness Usage 00

59. Child Safety Seat Shield Usage 00

60. Child Safety Seat Tether Usage 00

Note: Options below applicable to
Variables OA58-OA60.

(00) No child safety seat

Not Designed With Harness/Shield/Tether

(01) After market harness/shield/tether
added, not used
(02) After market harness/shield/tether used
(03) Child safety seat used, but no after market
harness/shield/tether added
(09) Unknown if harness/shield/tether
added or used

Designed With Harness/Shield/Tether

(11) Harness/shield/tether not used
(12) Harness/shield/tether used
(19) Unknown if harness/shield/tether used

Unknown If Designed With Harness/Shield/Tether

(21) Harness/shield/tether not used
(22) Harness/shield/tether used
(29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

INJURY CONSEQUENCES61. Injury Severity (Police Rating) 1

- (0) O - No injury
- (1) C - Possible injury
- (2) B - Nonincapacitating injury
- (3) A - Incapacitating injury
- (4) K - Killed
- (5) U - Injury, severity unknown
- (6) Died prior to accident
- (9) Unknown

62. Treatment - Mortality 4

- (0) No treatment
- (1) Fatal
- (2) Fatal - ruled disease (specify):
Hospitalized 2 days later

Nonfatal

- (3) Hospitalization
- (4) Transported and released
- (5) Treatment at scene - nontransported
- (6) Treatment later
- (7) Treatment - other (specify):

- (8) Transported to a medical facility-unknown if treated
- (9) Unknown

63. Type Of Medical Facility (for Initial Treatment) 2

- (0) Not treated at a medical facility
- (1) Trauma center
- (2) Hospital
- (3) Medical clinic
- (4) Physician's office
- (5) Treatment later at medical facility
- (8) Other (specify):

- (9) Unknown

64. Hospital Stay 00

- (00) Not Hospitalized
Code the number of days (up through 60) that the occupant stayed in hospital.
- (61) 61 days or more
- (99) Unknown

65. Working Days Lost 00

- Code the number of days (up through 60) that the occupant lost from work due to the accident
- (00) No working days lost
- (61) 61 days or more
- (62) Fatally injured
- (97) Not working prior to accident
- (99) Unknown

STOP WORK HERE**VARIABLES 66-74****TO BE CODED BY THE ZONE CENTER**

TO BE CODED BY THE ZONE CENTER**INJURY CONSEQUENCES**

66. Time to Death 00
 _____ Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 + n up through 30 days = 60)
 (00) Not fatal
 (96) Fatal - ruled disease
 (99) Unknown

67. 1st Medically Reported Cause of Death 00

68. 2nd Medically Reported Cause of Death 00

69. 3rd Medically Reported Cause of Death 00
 _____ Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death
 (00) Not fatal or no additional causes
 (96) Mode of death given but specific injuries are not linked to cause of death. (specify): _____

(97) Other result (includes fatal ruled disease) (specify): _____

(99) Unknown

70. Number of Recorded Injuries for This Occupant 06
 _____ Code the actual number of injuries recorded for this occupant.
 (00) No recorded injuries
 (97) Injured, details unknown
 (99) Unknown if injured

TRAUMA DATA

71. Glasgow Coma Scale (GCS) Score 15
 (at Medical Facility)
 (00) Not injured
 (01) Injured - not treated at medical facility
 (02) No GCS Score at medical facility
 (03-15) Code the actual value of the initial GCS Score recorded at medical facility.
 (97) Injured, details unknown
 (99) Unknown if injured

72. Was the Occupant Given Blood? 1
 (1) No - blood not given
 (2) Yes - blood given
 (specify units): _____
 (9) Unknown if blood given

73. Arterial Blood Gases (ABG) - HCO₃ 01
 (00) Not injured
 (01) Injured, ABGs not measured or reported
 (02-50) Code the actual value of the HCO₃
 (96) ABGs reported, HCO₃ unknown
 (97) Injured, details unknown
 (99) Unknown if injured

BELT USE DETERMINATION

74. Primary Source of Belt Use Determination 1
 (0) Not equipped/not available/destroyed or rendered inoperative
 (1) Vehicle inspection
 (2) Official injury data
 (3) Driver/occupant interview
 (8) Other (specify): _____
 (9) Unknown if belt used



U.S. Department of Transportation
National Highway Traffic Safety
Administration

OCCUPANT INJURY FORM

Form Approved
O.M.B. No. 2127-0021
NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number _____

3. Vehicle Number _____

2. Case Number - Stratum 9 6 0 5

4. Occupant Number _____

INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

Source of Injury Data	Body Region	A.I.S. - 90				Injury Source	Injury Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion Number
		Type of Anatomic Structure	Specific Anatomic Structure	Level of Injury	A.I.S. Severity				

<i>Diag. comments 1st</i>	5. <u>2</u>	6. <u>2</u>	7. <u>5</u>	8. <u>28</u>	9. <u>04</u>	10. <u>3</u>	11. <u>1</u>	12. <u>175</u> (170)	13. <u>1</u>	14. <u>1</u>	15. <u>00</u>
<i>Diag. comments 2nd</i>	16. <u>2</u>	17. <u>7</u>	18. <u>5</u>	19. <u>32</u>	20. <u>04</u>	21. <u>3</u>	22. <u>1</u>	23. <u>175</u> (170)	24. <u>1</u>	25. <u>1</u>	26. <u>00</u>
<i>Abdominal Injury</i>	27. <u>2</u>	28. <u>2</u>	29. <u>9</u>	30. <u>02</u>	31. <u>02</u>	32. <u>1</u>	33. <u>4</u>	34. <u>170</u>	35. <u>1</u>	36. <u>1</u>	37. <u>00</u>
<i>Abdominal Injury Chest</i>	38. <u>2</u>	39. <u>2</u>	40. <u>9</u>	41. <u>02</u>	42. <u>02</u>	43. <u>1</u>	44. <u>8</u>	45. <u>170</u>	46. <u>1</u>	47. <u>1</u>	48. <u>00</u>
<i>Abdominal Injury neck</i>	49. <u>2</u>	50. <u>3</u>	51. <u>9</u>	52. <u>02</u>	53. <u>02</u>	54. <u>1</u>	55. <u>5</u>	56. <u>170</u>	57. <u>1</u>	58. <u>1</u>	59. <u>00</u>
<i>Extremities of Right</i>	60. <u>2</u>	61. <u>7</u>	62. <u>9</u>	63. <u>04</u>	64. <u>02</u>	65. <u>1</u>	66. <u>1</u>	67. <u>175</u> (170)	68. <u>1</u>	69. <u>1</u>	70. <u>00</u>
7th	71. _____	72. _____	73. _____	74. _____	75. _____	76. _____	77. _____	78. _____	79. _____	80. _____	81. _____
8th	82. _____	83. _____	84. _____	85. _____	86. _____	87. _____	88. _____	89. _____	90. _____	91. _____	92. _____
9th	93. _____	94. _____	95. _____	96. _____	97. _____	98. _____	99. _____	100. _____	101. _____	102. _____	103. _____
10th	104. _____	105. _____	106. _____	107. _____	108. _____	109. _____	110. _____	111. _____	112. _____	113. _____	114. _____

OCCUPANT INJURY CLASSIFICATION

Body Region	Specific Anatomic Structure	Level of Injury	Aspect
(1) Head		Specific injuries are assigned consecutive two-digit numbers beginning with 02.	(1) Right
(2) Face			(2) Left
(3) Neck	<u>Vessels, Nerves, Organs.</u>	To the extent possible, within the organizational framework of the AIS, 00 is assigned to an injury NFS as to severity or where only one injury is given in the dictionary for that anatomic structure. 99 is assigned to any injury NFS as to lesion or severity.	(3) Bilateral
(4) Thorax	<u>Bones, Joints</u> are assigned consecutive two digit numbers beginning with 02.		(4) Central
(5) Abdomen		The exceptions to this rule apply to:	(5) Anterior
(6) Spine			(6) Posterior
(7) Upper Extremity			(7) Superior
(8) Lower Extremity			(8) Inferior
(9) Unspecified			(9) Unknown
			(0) Whole region
Type of Anatomic Structure	Whole Area	Abbreviated Injury Scale	
(1) Whole Area	(02) Skin - Abrasion	(1) Minor Injury	
(2) Vessels	(04) Skin - Contusion	(2) Moderate Injury	
(3) Nerves	(06) Skin - Laceration	(3) Serious Injury	
(4) Organs (includes Muscles/ligaments)	(08) Skin - Avulsion	(4) Severe Injury	
(5) Skeletal (includes joints)	(10) Amputation	(5) Critical Injury	
(6) Head - LOC	(20) Burn	(6) Maximum (untreatable)	
(9) Skin	(30) Crush	(7) Injured, unknown severity	
	(40) Degloving		
	(50) Injury - NFS		
	(90) Trauma, other than mechanical		
	<u>Head - LOC</u>		
	(02) Length of LOC		
	(04) Level		
	(06) of		
	(08) Consciousness		
	(10) Concussion		
	<u>Spine</u>		
	(02) Cervical		
	(04) Thoracic		
	(06) Lumbar		

SOURCE OF INJURY DATA

INJURY SOURCE
CONFIDENCE LEVEL

DIRECT/INDIRECT INJURY

OFFICIAL RECORDS

- (1) Autopsy records with or without hospital/medical records
- (2) Hospital/medical records other than emergency room (e.g., discharge summary)
- (3) Emergency room records only (including associated X-rays or other lab reports)
- (4) Private physician, walk-in or emergency clinic

UNOFFICIAL RECORDS

- (5) Lay coroner report
- (6) E.M.S. personnel
- (7) Interviewee
- (8) Other source (specify): _____
- (9) Police

- (1) Certain
- (2) Probable
- (3) Possible
- (9) Unknown

- (1) Direct contact injury
- (2) Indirect contact injury
- (3) Noncontact injury
- (7) Injured, unknown source

INJURY SOURCES

FRONT

- (001) Windshield
- (002) Mirror
- (003) Sunvisor
- (004) Steering wheel rim
- (005) Steering wheel hub/spoke
- (006) Steering wheel (combination of codes 004 and 005)
- (007) Steering column, transmission selector lever, other attachment
- (008) Cellular telephone or CB radio
- (009) Add on equipment (e.g., tape deck, air conditioner)
- (010) Left instrument panel and below
- (011) Center instrument panel and below
- (012) Right instrument panel and below
- (013) Glove compartment door
- (014) Knee bolster
- (015) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (016) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
- (017) Windshield reinforced by exterior object (specify): _____
- (019) Other front object (specify): _____

LEFT SIDE

- (051) Left side interior surface, excluding hardware or armrests
- (052) Left side hardware or armrest
- (053) Left A (A1/A2)-pillar
- (054) Left B-pillar
- (055) Other left pillar (specify): _____
- (056) Left side window glass
- (057) Left side window frame
- (058) Left side window sill
- (059) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (060) Other left side object (specify): _____

RIGHT SIDE

- (101) Right side interior surface, excluding hardware or armrests

- (102) Right side hardware or armrest
- (103) Right A (A1/A2)-pillar
- (104) Right B-pillar
- (105) Other right pillar (specify): _____
- (106) Right side window glass
- (107) Right side window frame
- (108) Right side window sill
- (109) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (110) Other right side object (specify): _____

INTERIOR

- (151) Seat, back support
- (152) Belt restraint webbing/buckle
- (153) Belt restraint B-pillar or door frame attachment point
- (154) Other restraint system component (specify): _____
- (155) Head restraint system
- (160) Other occupants (specify): _____
- (161) Interior loose objects
- (162) Child safety seat (specify): _____
- (163) Other interior object (specify): _____

AIR BAG

- (170) Air bag-driver side
- (171) Air bag-driver side and eyewear
- (172) Air bag-driver side and jewelry
- (173) Air bag-driver side and object held
- (174) Air bag-driver side and object in mouth
- (175) Air bag compartment cover-driver side
- (176) Air bag compartment cover-driver side and eyewear
- (177) Air bag compartment cover-driver side and jewelry
- (178) Air bag compartment cover-driver side and object held
- (179) Air bag compartment cover-driver side and object in mouth
- (180) Air bag-passenger side
- (181) Air bag-passenger side and eyewear
- (182) Air bag-passenger side and jewelry

- (183) Air bag-passenger side and object held
- (184) Air bag-passenger side and object in mouth
- (185) Air bag compartment cover-passenger side
- (186) Air bag compartment cover-passenger side and eyewear
- (187) Air bag compartment cover-passenger side and jewelry
- (188) Air bag compartment cover-passenger side and object held
- (189) Air bag compartment cover-passenger side and object in mouth
- (190) Other air bag (specify): _____
- (195) Other air bag compartment cover (specify): _____

ROOF

- (201) Front header
- (202) Rear header
- (203) Roof left side rail
- (204) Roof right side rail
- (205) Roof or convertible top

FLOOR

- (251) Floor (including toe pan)
- (252) Floor or console mounted transmission lever, including console
- (253) Parking brake handle
- (254) Foot controls including parking brake

REAR

- (301) Backlight (rear window)
- (302) Backlight storage rack, door, etc.
- (303) Other rear object (specify): _____

ADAPTIVE (ASSISTIVE) DRIVING EQUIPMENT

- (401) Hand controls for braking/acceleration
- (402) Steering control devices (attached to OEM steering wheel)
- (403) Steering knob attached to steering wheel
- (405) Replacement steering wheel (i.e., reduced diameter)
- (406) Joy stick steering controls
- (407) Wheelchair tie-downs
- (408) Modification to seat belts, (specify): _____
- (409) Additional or relocated switches, (specify): _____

- (410) Raised roof

- (411) Wall mounted head rest (used behind wheel chair)
- (412) Other adaptive device (specify): _____

EXTERIOR of OCCUPANT'S VEHICLE

- (451) Hood
- (452) Outside hardware (e.g., outside mirror, antenna)
- (453) Other exterior surface or tires (specify): _____
- (454) Unknown exterior objects

EXTERIOR OF OTHER MOTOR VEHICLE

- (501) Front bumper
- (502) Hood edge
- (503) Other front of vehicle (specify): _____
- (504) Hood
- (505) Hood ornament
- (506) Windshield, roof rail, A-pillar
- (507) Side surface
- (508) Side mirrors
- (509) Other side protrusions (specify): _____
- (510) Rear surface
- (511) Undercarriage
- (512) Tires and wheels
- (513) Other exterior of other motor vehicle (specify): _____
- (514) Unknown exterior of other motor vehicle

OTHER VEHICLE OR OBJECT IN THE ENVIRONMENT

- (551) Ground
- (598) Other vehicle or object (specify): _____
- (599) Unknown vehicle or object

NONCONTACT INJURY

- (601) Fire in vehicle
- (602) Flying glass
- (603) Other noncontact injury source (specify): _____
- (604) Air bag exhaust gases
- (697) Injured, unknown source

OFFICIAL INJURY DATA — SOFT TISSUE INJURIES

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

Restrained?

___ No

___ Yes

Blood Alcohol Level
(mg/dl)

BAL = ___

Glasgow Coma
Scale Score

GCSS = ___

Units of Blood
Given

Units = ___

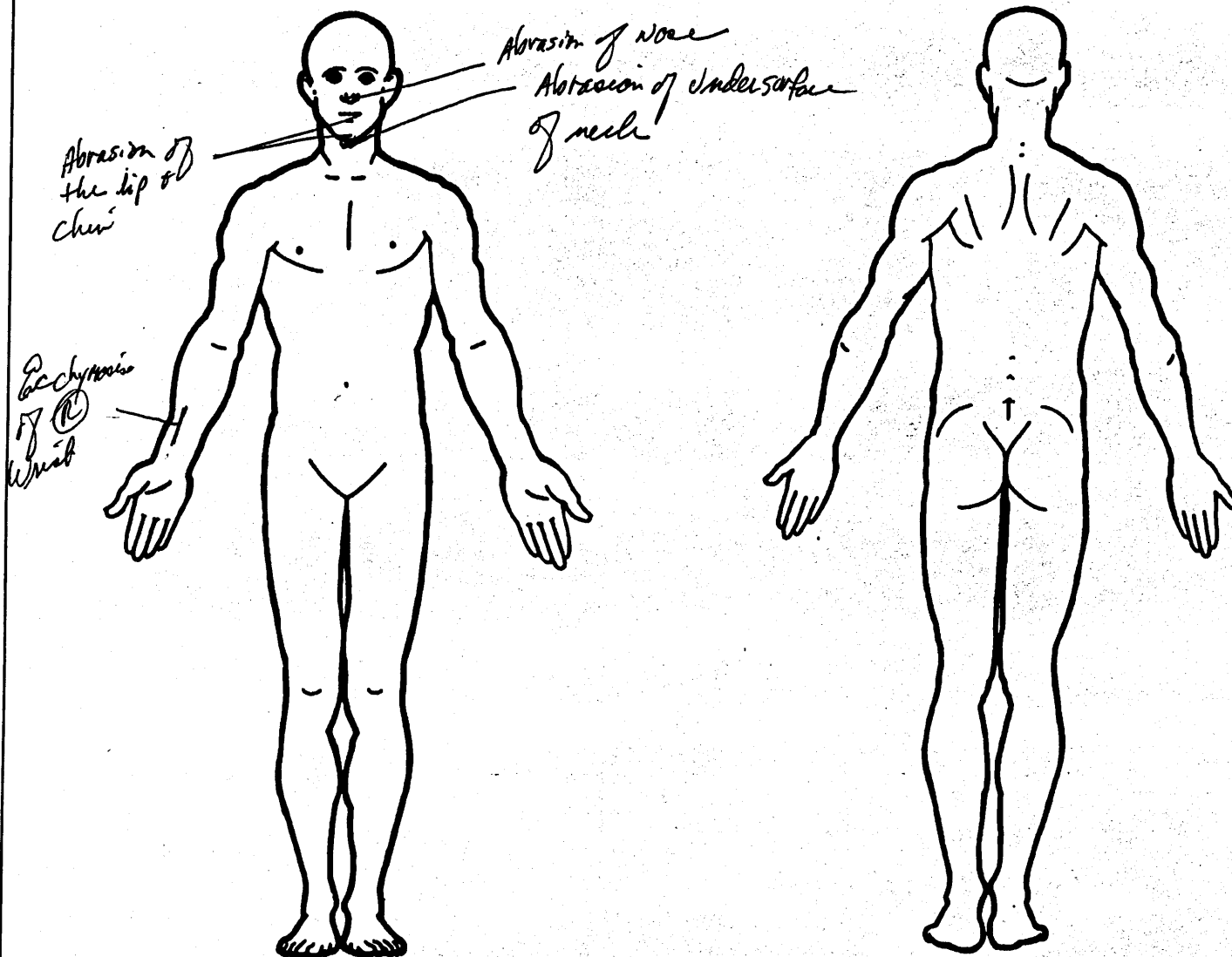
Arterial Blood Gases

pH = ___

PO₂ = ___

PCO₂ ___

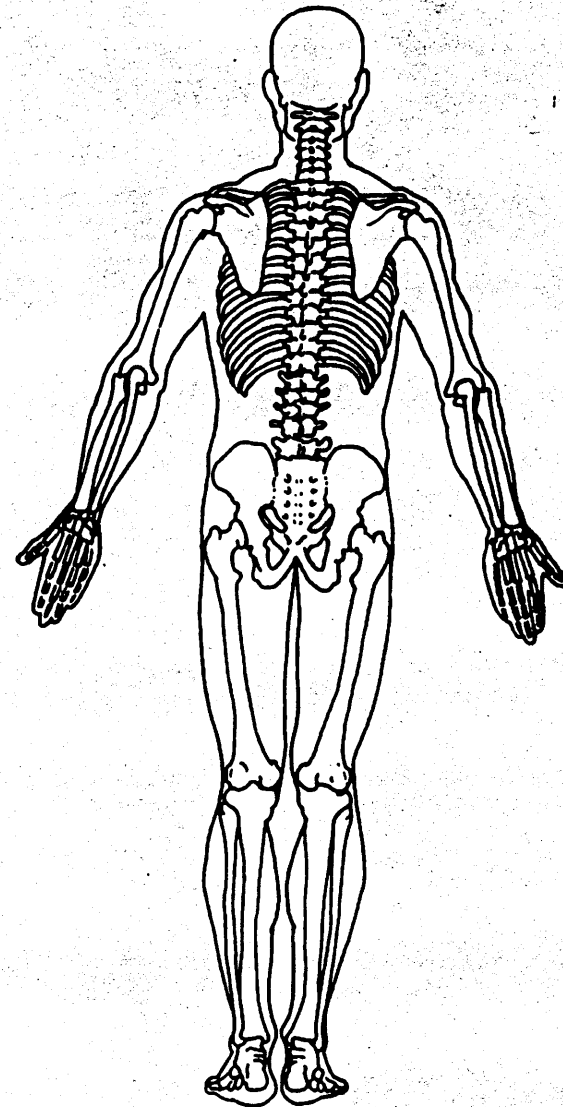
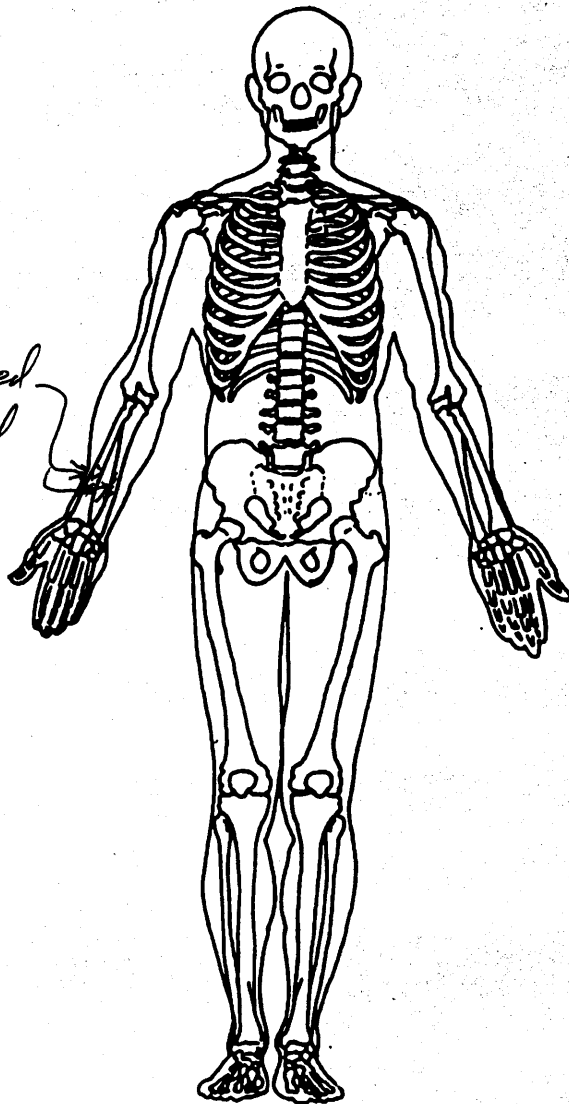
HCO₃ ___



OFFICIAL INJURY DATA — SKELETAL INJURIES

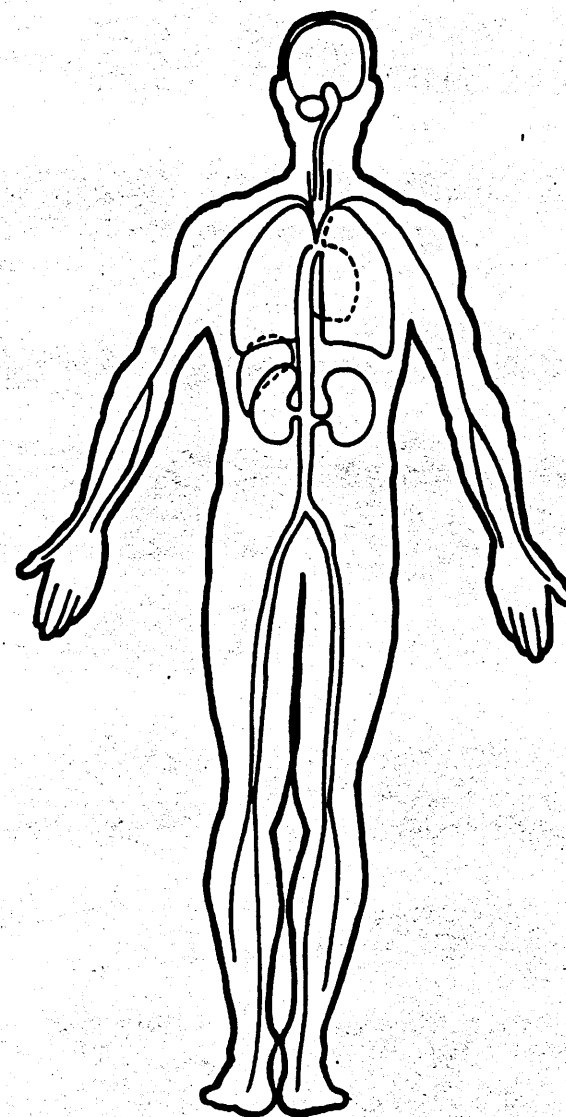
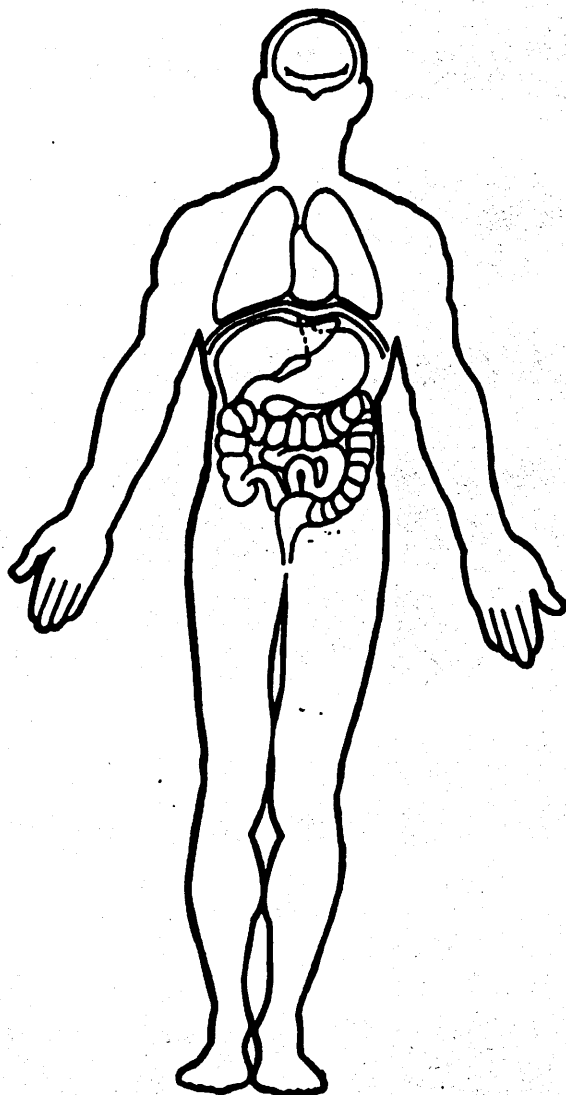
Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

*Displaced comminuted
fracture of distal
third of Radius
and Ulna*



OFFICIAL INJURY DATA — INTERNAL INJURIES

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)





GENERAL VEHICLE FORM

1. Primary Sampling Unit Number
2. Case Number - Stratum 96-05
3. Vehicle Number 02

VEHICLE IDENTIFICATION

4. Vehicle Model Year 94
Code the last two digits of the model year
(99) Unknown
5. Vehicle Make (specify): 35
Nissan
Applicable codes are found in your
NASS Data Collection, Coding and
Editing Manual.
(99) Unknown
6. Vehicle Model (specify): 043
Sentra Limited Edition
Applicable codes are found in your
NASS Data Collection, Coding and
Editing Manual.
(999) Unknown
7. Body Type 04
Note: Applicable codes may be found on
the back of this page.
8. Vehicle Identification Number
1N4EB31F3RC (Serial # omitted)
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
Left justify; Slash zeros and letter Z (0 and Z)
No VIN—Code all zeros
Unknown—Code all nines
9. Vehicle Special Use (This Trip) 0
(0) No special use
(1) Taxi
(2) Vehicle used as school bus
(3) Vehicle used as other bus
(4) Military
(5) Police
(6) Ambulance
(7) Fire truck or car
(8) Other (specify): _____
(9) Unknown

OFFICIAL RECORDS

10. Police Reported Vehicle Disposition 1
(0) Not towed due to vehicle damage
(1) Towed due to vehicle damage
(9) Unknown
11. Police Reported Travel Speed 999
Code to the nearest kmph (NOTE: 000 means
less than 0.5 kmph)
(160) 159.5 kmph and above
(999) Unknown

____ mph X 1.6093 = ____ kmph

12. Speed Limit 072
(000) No statutory limit
Code posted or statutory speed limit in kmph
(999) Unknown

____ mph X 1.6093 = ____ kmph
13. Police Reported Alcohol Presence For Driver 0
(0) No alcohol present
(1) Yes alcohol present
(7) Not reported
(8) No driver present
(9) Unknown
14. Alcohol Test Result For Driver 96
Code actual value (decimal implied
before first digit—0.xx)
(95) Test refused
(96) None given
(97) AC test performed, results unknown
(98) No driver present
(99) Unknown

Source: _____
15. Police Reported Other Drug Presence For Driver 0
(0) No other drug(s) present
(1) Yes other drug(s) present
(7) Not reported
(8) No driver present
(9) Unknown
16. Other Drug Specimen Test Result For Driver 0
(0) No specimen test given
(1) Drug(s) not found in specimen
(2) Drug(s) found in specimen, (specify):

(3) Specimen test given, results unknown or not
obtained
(8) No driver present
(9) Unknown if specimen test given
17. Driver's Zip Code
(00001) Driver not a resident of U.S. or territories

____ Code actual 5-digit zip code
(99998) No driver present
(99999) Unknown
18. Driver's Race/Ethnic Origin 9
(1) White (non-Hispanic)
(2) Black (non-Hispanic)
(3) White (Hispanic)
(4) Black (Hispanic)
(5) American Indian, Eskimo or Aleut
(6) Asian or Pacific Islander
(7) Other (specify):

(8) No driver present
(9) Unknown

CODES FOR BODY TYPE

CDS APPLICABLE VEHICLES

Automobiles

- (01) Convertible (excludes sun-roof, t-bar)
- (02) 2-door sedan, hardtop, coupe
- (03) 3-door/2-door hatchback
- (04) 4-door sedan, hardtop
- (05) 5-door/4-door hatchback
- (06) Station wagon (excluding van and truck based)
- (07) Hatchback, number of doors unknown
- (08) Other automobile type (specify): _____
- (09) Unknown automobile type

Automobile Derivatives

- (10) Auto based pickup (includes El Camino, Caballero, Ranchero, Brat, and Rabbit pickup)
- (11) Auto based panel (cargo station wagon, auto based ambulance/hearse)
- (12) Large limousine - more than four side doors or stretched chassis
- (13) Three-wheel automobile or automobile derivative

Utility Vehicles ($\leq 4,536$ kgs GVWR)

- (14) Compact utility (Jeep CJ-2 - CJ-7, Scrambler, Golden Eagle, Renegade, Laredo, Wrangler, Cherokee [84 and after], Dispatcher, Raider, Bronco II, Bronco [76 and before], Explorer, S-10 Blazer, Geo Tracker, Bravada, S-15 Jimmy, Thing, Pathfinder, Trooper, Trooper II, Rodeo, Amigo, Navajo, 4-Runner, Montero, Passport, Samurai, Sidekick, Rocky)
- (15) Large utility (includes Jeep Cherokee [83 and before], Ramcharger, Trailduster, Bronco-fullsize [78 and after], fullsize Blazer, fullsize Jimmy, Hummer, Landcruiser, Rover, Scout, Yukon)
- (16) Utility station wagon (Chevy Suburban, GMC Suburban, Travelall, Grand Wagoneer, includes suburban limousine)
- (19) Utility, unknown body type

Van Based Light Trucks ($\leq 4,536$ kgs GVWR)

- (20) Minivan (Town and Country, Caravan, Grand Caravan, Voyager, Grand Voyager, Mini-Ram, Vista, Aerostar, Windstar, Villager, Lumina APV, Trans Sport, Silhouette, Astro, Safari, Toyota Van, Toyota Minivan, Previa, Nissan Minivan, Quest, Mitsubishi Minivan, Expo Wagon, Vanagon/Camper.)
- (21) Large van (B150-B350, Sportsman, Royal, Maxiwagon, Ram, Tradesman, Voyager [83 and before], E150-E350, Econoline, Clubwagon, Chateau, G10-G30, Chevy Van, Beauville, Sport Van, G15-G35, Rally Van, Vandura.)
- (22) Step van or walk-in van ($\leq 4,536$ kgs GVWR)
- (23) Van based motorhome ($\leq 4,536$ kgs GVWR)
- (24) Van based school bus ($\leq 4,536$ kgs GVWR)
- (25) Van based other bus ($\leq 4,536$ kgs GVWR)
- (28) Other van type (Hi-Cube Van, Kary) (specify): _____
- (29) Unknown van type

Light Conventional Trucks (Pickup style cab, $\leq 4,536$ kgs GVWR)

- (30) Compact pickup (D50, Colt P/U, Ram 50, Dakota, Arrow Pickup [foreign], Ranger, Courier, S-10, T-10, LUV, S-15, T-15, Sonoma, Datsun/Nissan Pickup, P'up, Mazda Pickup, Toyota Pickup, Mitsubishi Pickup)
- (31) Large Pickup (Jeep Pickup, Comanche, Ram Pickup, D100-D350, W100-W350, F100-F350, C10-C35, K10-K35, R10-R35, V10-V35, Silverado, Sierra, R100-R500, T100)
- (32) Pickup with slide-in camper
- (33) Convertible pickup
- (39) Unknown pickup style light conventional truck type

Other Light Trucks ($\leq 4,536$ kgs GVWR)

- (40) Cab chassis based (includes rescue vehicles, light stake, dump, and tow truck)
- (41) Truck based panel
- (42) Light truck based motorhome (chassis mounted)
- (45) Other light conventional truck type
- (48) Unknown light truck type
- (49) Unknown light vehicle type (automobile, utility, van, or light truck)

OTHER VEHICLES

Buses (Excludes Van Based)

- (50) School bus (designed to carry students, not cross country or transit)
- (58) Other bus type (e.g., transit, intercity, bus based motorhome) (specify): _____
- (59) Unknown bus type

Medium/Heavy Trucks ($> 4,536$ kgs GVWR)

- (60) Step van ($> 4,536$ kgs GVWR)
- (61) Single unit straight truck ($4,536$ kgs $<$ GVWR $\leq 8,845$ kgs)
- (62) Single unit straight truck ($8,845$ kgs $<$ GVWR $\leq 11,793$ kgs)
- (63) Single unit straight truck ($> 11,793$ kgs GVWR)
- (64) Single unit straight truck, GVWR unknown
- (65) Medium/heavy truck based motorhome
- (67) Truck-tractor with no cargo trailer
- (68) Truck-tractor pulling one trailer
- (69) Truck-tractor pulling two or more trailers
- (70) Truck-tractor (unknown if pulling trailer)
- (78) Unknown medium/heavy truck type
- (79) Unknown truck type (light/medium/heavy)

Motored Cycles (Does Not Include All-Terrain Vehicles/Cycles)

- (80) Motorcycle
- (81) Moped (motorized bicycle)
- (82) Three-wheel motorcycle or moped
- (88) Other motored cycle (minibike, motorscooter) (specify): _____
- (89) Unknown motored cycle type

Other Vehicles

- (90) ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle)
- (91) Snowmobile
- (92) Farm equipment other than trucks
- (93) Construction equipment other than trucks
- (97) Other vehicle type
- (99) Unknown body type

PRECRASH ENVIRONMENTAL DATA**19. Relation To Interchange Or Junction** 2

- (0) Non-interchange area and non-junction
(1) Interchange area related

Non-Interchange junctions

- (2) Intersection related
(3) Driveway, alley access related
(4) Other junction (specify) _____

(5) Unknown type of junction _____

(9) Unknown

20. Trafficway Flow 0

- (0) Not physically divided (two way traffic)
(1) Divided trafficway-median strip without positive barrier
(2) Divided trafficway-median strip with positive barrier
(3) One way traffic
(9) Unknown

21. Number Of Travel Lanes 5

- (1) One
(2) Two
(3) Three
(4) Four
(5) Five
(6) Six
(7) Seven or more
(9) Unknown

22. Roadway Alignment 1

- (1) Straight
(2) Curve right
(3) Curve left
(9) Unknown

23. Roadway Profile 1

- (1) Level
(2) Uphill grade (> 2%)
(3) Hill crest
(4) Downhill grade (> 2%)
(5) Sag
(9) Unknown

24. Roadway Surface Type 2

- (1) Concrete
(2) Bituminous (asphalt)
(3) Brick or block
(4) Slag, gravel, or stone
(5) Dirt
(8) Other (specify): _____
(9) Unknown

25. Roadway Surface Condition 3

- (1) Dry
(2) Wet
(3) Snow or slush
(4) Ice
(5) Sand, dirt, or oil
(8) Other (specify): _____
(9) Unknown

26. Light Conditions 3

- (1) Daylight
(2) Dark
(3) Dark, but lighted
(4) Dawn
(5) Dusk
(9) Unknown

27. Atmospheric Conditions 3

- (0) No adverse atmospheric-related driving conditions
(1) Rain
(2) Sleet/hail
(3) Snow
(4) Fog
(5) Rain and fog
(6) Sleet and fog
(7) Other (e.g., smog, smoke, blowing sand or dust, etc.) (specify): _____
(9) Unknown

28. Traffic Control Device 1

- (0) No traffic control(s)
(1) Traffic control signal (not RR crossing)

Regulatory

- (2) Stop sign
(3) Yield sign
(4) School zone sign
(5) Other regulatory sign (specify): _____

(6) Warning sign (not RR crossing)

(7) Unknown sign

(8) Miscellaneous/other controls including RR controls (specify): _____

(9) Unknown

29. Traffic Control Device Functioning 2

- (0) No traffic control device
(1) Traffic control device not functioning (specify): _____
(2) Traffic control device functioning properly
(9) Unknown

PRECRASH DRIVER RELATED DATA

30. Driver's Distraction/Inattention To Driving (Prior To Recognition Of Critical Event) 99
- (00) No driver present
 (01) Attentive or not distracted
 (02) Looked but did not see
- Distractions*
 (03) By other occupant(s), (specify): _____
 (04) By moving object in vehicle (specify): _____
 (05) While talking or listening to cellular phone (specify location and type of phone): _____
 (06) While dialing cellular phone (specify location and type of phone): _____
 (07) While adjusting climate controls
 (08) While adjusting radio, cassette, CD (specify): _____
 (09) While using other device/controls integral to vehicle (specify): _____
 (10) While using or reaching for device/object brought into vehicle (specify): _____
 (11) Sleepy or fell asleep
 (12) Distracted by outside person, object, or event (specify): _____
 (13) Eating or drinking
 (14) Smoking related
 (97) Distracted/inattentive, details unknown
 (98) Other, distraction (specify): _____
 (99) Unknown
31. Pre-Event Movement (Prior to Recognition of Critical Event) 01
- (00) No driver present
 (01) Going straight
 (02) Decelerating in traffic lane
 (03) Accelerating in traffic lane
 (04) Starting in traffic lane
 (05) Stopped in traffic lane
 (06) Passing or overtaking another vehicle
 (07) Disabled or parked in travel lane
 (08) Leaving a parking position
 (09) Entering a parking position
 (10) Turning right
 (11) Turning left
 (12) Making a U-turn
 (13) Backing up (other than for parking position)
 (14) Negotiating a curve
 (15) Changing lanes
 (16) Merging
 (17) Successful avoidance maneuver to a previous critical event
 (97) Other (specify): _____
 (99) Unknown
32. Critical Precrash Event 62
- THIS VEHICLE LOSS OF CONTROL DUE TO:**
 (01) Blow out or flat tire
 (02) Stalled engine
 (03) Disabling vehicle failure (e.g., wheel fell off) (specify): _____
 (04) Non-disabling vehicle problem (e.g., hood flew up) (specify): _____
 (05) Poor road conditions (puddle, pot hole, ice, etc.) (specify): _____
 (06) Traveling too fast for conditions
 (08) Other cause of control loss (specify): _____
 (09) Unknown cause of control loss

THIS VEHICLE TRAVELLING

- (10) Over the lane line on left side of travel lane
 (11) Over the lane line on right side of travel lane
 (12) Off the edge of the road on the left side
 (13) Off the edge of the road on the right side
 (14) End departure
 (15) Turning left at intersection
 (16) Turning right at intersection
 (17) Crossing over (passing through) intersection
 (18) This vehicle decelerating
 (19) Unknown travel direction

OTHER MOTOR VEHICLE IN LANE

- (50) Other vehicle stopped
 (51) Traveling in same direction with lower steady speed
 (52) Traveling in same direction while decelerating
 (53) Traveling in same direction with higher speed
 (54) Traveling in opposite direction
 (55) In crossover
 (56) Backing
 (59) Unknown travel direction of other motor vehicle in lane

OTHER MOTOR VEHICLE ENCROACHING INTO LANE

- (60) From adjacent lane (same direction)—over left lane line
 (61) From adjacent lane (same direction)—over right lane line
 (62) From opposite direction—over left lane line
 (63) From opposite direction—over right lane line
 (64) From parking lane
 (65) From crossing street, turning into same direction
 (66) From crossing street, across path
 (67) From crossing street, turning into opposite direction
 (68) From crossing street, intended path not known
 (70) From driveway, turning into same direction
 (71) From driveway, across path
 (72) From driveway, turning into opposite direction
 (73) From driveway, intended path not known
 (74) From entrance to limited access highway
 (78) Encroachment by other vehicle—details unknown

PEDESTRIAN, PEDALCYCLIST, OR OTHER NONMOTORIST

- (80) Pedestrian in roadway
 (81) Pedestrian approaching roadway
 (82) Pedestrian—unknown location
 (83) Pedalcyclist or other nonmotorist in roadway (specify): _____
 (84) Pedalcyclist or other nonmotorist approaching roadway, (specify): _____
 (85) Pedalcyclist or other nonmotorist—unknown location (specify): _____

OBJECT OR ANIMAL

- (87) Animal in roadway
 (88) Animal approaching roadway
 (89) Animal—unknown location
 (90) Object in roadway
 (91) Object approaching roadway
 (92) Object—unknown location
 (98) Other critical precrash event (specify): _____
 (99) Unknown

33. Attempted Avoidance Maneuver 04

- (00) No driver present
- (01) No avoidance maneuver
- (02) Braking (no lockup)
- (03) Braking (lockup)
- (04) Braking (lockup unknown)
- (05) Releasing brakes
- (06) Steering left
- (07) Steering right
- (08) Braking and steering left
- (09) Braking and steering right
- (10) Accelerating
- (11) Accelerating and steering left
- (12) Accelerating and steering right
- (98) Other action (specify):

(99) Unknown

34. Pre-Impact Stability 1

- (0) No driver present
- (1) Tracking
- (2) Skidding longitudinally—rotation less than 30 degrees
- (3) Skidding laterally—clockwise rotation
- (4) Skidding laterally—counterclockwise rotation
- (7) Other vehicle loss-of-control (specify):

(9) Precrash stability unknown

35. Pre-Impact Location 1

- (0) No driver present
- (1) Stayed in original travel lane
- (2) Stayed on roadway but left original travel lane
- (3) Stayed on roadway, not known if left original travel lane
- (4) Departed roadway
- (5) Remained off roadway
- (6) Returned to roadway
- (7) Entered roadway
- (9) Unknown

36. Accident Type 69

(Note: Applicable codes on back of this page)

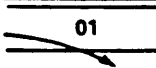
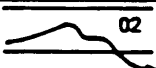
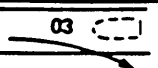
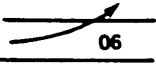
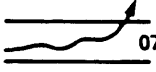
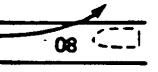
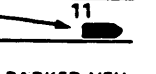
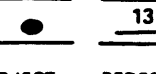


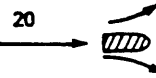
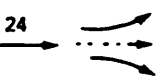
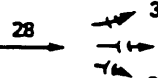

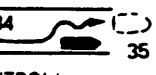
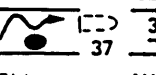
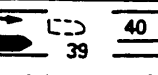
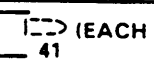
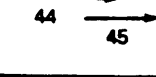


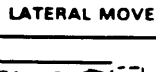
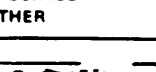

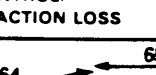
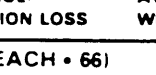
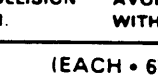
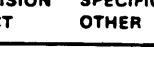
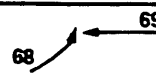
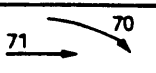

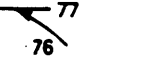
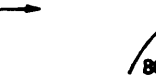
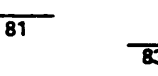
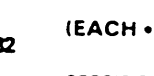
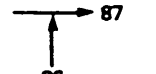

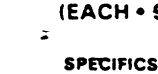

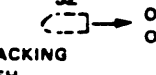

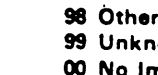
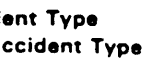
(00) No impact

Code the number of the diagram that best describes the accident circumstance

(98) Other accident type (specify):

(99) Unknown

STOP HERE IF GV07 DOES NOT EQUAL 01 - 49

Category	Configuration	ACCIDENT TYPES (Includes Intent)					
I Single Driver	A. Right Roadside Departure	 01 DRIVE OFF ROAD	 02 CONTROL/ TRACTION LOSS	 03 AVOID COLLISION WITH VEH., PED., ANIM.	04 SPECIFICS OTHER	05 SPECIFICS UNKNOWN	
	B. Left Roadside Departure	 06 DRIVE OFF ROAD	 07 CONTROL/ TRACTION LOSS	 08 AVOID COLLISION WITH VEH., PED., ANIM.	09 SPECIFICS OTHER	10 SPECIFICS UNKNOWN	
	C. Forward Impact	 11 PARKED VEH.	 12 STA. OBJECT	 13 PEDESTRIAN/ ANIMAL	 14 END DEPARTURE	15 SPECIFICS OTHER	16 SPECIFICS UNKNOWN
II Same Trafficway Same Direction	D. Rear-End	 20 STOPPED 21, 22, 23	 22 SLOWER 25, 26, 27	 24 DECEL. 29, 30, 31	 26 AVOID COLLISION WITH VEH.	(EACH • 32) SPECIFICS OTHER	(EACH • 33) SPECIFICS UNKNOWN
	E. Forward Impact	 34 CONTROL/ TRACTION LOSS	 36 CONTROL/ TRACTION LOSS	 38 AVOID COLLISION WITH VEH.	 40 AVOID COLLISION WITH OBJECT	(EACH • 42) SPECIFICS OTHER	(EACH • 43) SPECIFICS UNKNOWN
	F. Sideswipe Angle	 44 45	 46 45	 47	(EACH • 48) SPECIFICS OTHER	(EACH • 49) SPECIFICS UNKNOWN	
III Same Trafficway Opposite Direction	G. Head-On	 50 LATERAL MOVE	 51 (EACH • 52) SPECIFICS OTHER	 52 (EACH • 53) SPECIFICS UNKNOWN			
	H. Forward Impact	 54 CONTROL/ TRACTION LOSS	 56 CONTROL/ TRACTION LOSS	 58 AVOID COLLISION WITH VEH.	 60 AVOID COLLISION WITH OBJECT	(EACH • 62) SPECIFICS OTHER	(EACH • 63) SPECIFICS UNKNOWN
	I. Sideswipe Angle	 64 LATERAL MOVE	 65 (EACH • 66) SPECIFICS OTHER	 66 (EACH • 67) SPECIFICS UNKNOWN			
IV Change Trafficway Vehicle Turning	J. Turn Across Path	 68 INITIAL OPPOSITE DIRECTIONS	 69 INITIAL SAME DIRECTIONS	 70 71	 72 73	(EACH • 74) SPECIFICS OTHER	(EACH • 75) SPECIFICS UNKNOWN
	K. Turn Into Path	 76 TURN INTO SAME DIRECTION	 77 78	 79 80	 81 82	(EACH • 84) SPECIFICS OTHER	(EACH • 85) SPECIFICS UNKNOWN
V Intersecting Paths (Vehicle Damage)	L. Straight Paths	 86 87	 88 89	 89 (EACH • 90) SPECIFICS OTHER	 90 (EACH • 91) SPECIFICS UNKNOWN		
VI Miscellaneous	M. Backing Etc	92 BACKING VEH.	93 OTHER VEH. OR OBJECT	94 98 Other Accident Type	95 99 Unknown Accident Type		00 No Impact

OCCUPANT RELATED

37. Driver Presence in Vehicle 1
(0) Driver not present
(1) Driver present
(9) Unknown
38. Number of Occupants This Vehicle 01
(00-96) Code actual number of occupants for this vehicle
(97) 97 or more
(99) Unknown
39. Number of Occupant Forms Submitted 01

AIR BAG RELATED

40. Is this an AOPS Vehicle? 1
(0) No (includes unknown)
(1) Yes - researcher determined
(2) VIN determined air bag system
(3) VIN determined automatic (passive) belts
(4) VIN determined air bag and automatic (passive) belts
41. Air Bag(s) Deployment, First Seat Frontal 2
(0) Not equipped or not available
(1) No air bags deployed
Single Air Bag Vehicle
(2) Driver air bag deployed
(3) Driver air bag, unknown if deployed
Multiple Air Bag Vehicle
(4) Driver side only deployed
(5) Passenger side only deployed
(6) Driver and passenger side deployed
(7) Driver and passenger side unknown if deployed
(8) Air bag(s) deployed, details unknown
(9) Unknown
42. Air Bag(s) Deployment, Other Than First Seat Frontal
(0) Not equipped with an "other" air bag
(1) Deployed during accident (as a result of impact)
(2) Deployed inadvertently just prior to accident
(3) Deployed, details unknown
(4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
(5) Unknown if deployed
(7) Nondeployed
(9) Unknown

Specify type of "other" air bag present: _____

VEHICLE WEIGHT ITEMS

43. Vehicle Curb Weight 1,060
Code weight to nearest 10 kilograms.
(045) Less than 454 kilograms
(612) 6,124 kilograms or more
(999) Unknown
_____, _____ lbs X .4536 = _____, _____ kgs

Source: _____

44. Vehicle Cargo Weight 0,000
Code weight to nearest 10 kilograms.
(000) Less than 5 kilograms
(454) 4,536 kilograms or more
(999) Unknown
_____, _____ lbs X .4536 = _____, _____ kgs

Source: _____

ROLLOVER DATA

45. Rollover 00
(00) No rollover (no overturning)
Rollover (primarily about the longitudinal axis)
(01-16) Code the number of quarter turns
(17) Rollover, 17 or more quarter turns (specify): _____
(98) Rollover--end-over-end (i.e., primarily about the lateral axis)
(99) Rollover (overturn), details unknown
46. Rollover Initiation Type 00
(00) No rollover
(01) Trip-over
(02) Flip-over
(03) Turn-over
(04) Climb-over
(05) Fall-over
(06) Bounce-over
(07) Collision with another vehicle
(08) Other rollover initiation type specify): _____
(98) Rollover--end-over-end
(99) Unknown rollover initiation type
47. Location of Rollover Initiation 0
(0) No rollover
(1) On roadway
(2) On shoulder--paved
(3) On shoulder--unpaved
(4) On roadside or divided trafficway median
(8) Rollover--end-over-end
(9) Unknown
48. Rollover Initiation Object Contacted 00
(Note: Applicable codes on back of page)
49. Location on Vehicle Where Initial Principal Tripping Force Is Applied 0
(0) No rollover
(1) Wheels/tires
(2) Side plane
(3) End plane
(4) Undercarriage
(5) Other location on vehicle (specify): _____
(6) Non-contact rollover forces (specify): _____
(8) Rollover--end-over-end
(9) Unknown

50. Direction of Initial Roll 0
(0) No rollover
(1) Roll right - primarily about the longitudinal axis
(2) Roll left - primarily about the longitudinal axis
(8) Rollover--end-over-end
(9) Unknown roll direction

CODES FOR ROLLOVER INITIATION OBJECT CONTACTED

- (00) No rollover
- (01-30) — Vehicle Number

Noncollision

- (31) Turn-over — fall-over
- (32) No rollover impact initiation (end-over-end)
- (34) Jackknife

Collision With Fixed Object

- (41) Tree (≤ 10 cm in diameter)
- (42) Tree (> 10 cm in diameter)
- (43) Shrubbery or bush
- (44) Embankment
- (45) Breakaway pole or post (any diameter)

Nonbreakaway Pole or Post

- (50) Pole or post (≤ 10 cm in diameter)
- (51) Pole or post (> 10 cm but ≤ 30 cm in diameter)
- (52) Pole or post (> 30 cm in diameter)
- (53) Pole or post (diameter unknown)
- (54) Concrete traffic barrier
- (55) Impact attenuator
- (56) Other traffic barrier (includes guardrail)
(specify): _____

- (57) Fence
- (58) Wall
- (59) Building
- (60) Ditch or culvert
- (61) Ground
- (62) Fire hydrant
- (63) Curb
- (64) Bridge
- (68) Other fixed object (specify): _____

- (69) Unknown fixed object _____

Collision with Nonfixed Object

- (70) Passenger car, light truck, van, or other vehicle not in-transport
- (71) Medium/heavy truck or bus not in-transport
- (76) Animal
- (77) Train
- (78) Trailer, disconnected in transport
- (79) Object fell from vehicle in-transport
- (88) Other nonfixed object (specify): _____

- (89) Unknown nonfixed object _____

- (98) Other event (specify): _____

- (99) Unknown event or object _____

OVERRIDE/UNDERRIDE (THIS VEHICLE)**ACCIDENT RECONSTRUCTION PROGRAMS
HIGHEST DELTA V**

51. Front Override/Underride (this Vehicle) 0
52. Rear Override/Underride (this Vehicle) 0
- (0) No override/underride, or not an end-to-end impact between two CDS applicable vehicles, and no medium/heavy truck or bus underride

*Override (see specific CDC)**[Between 2 CDS applicable vehicles (Bodytype, GV07 = 1-49)]*

- (1) 1st CDC
- (2) 2nd CDC
- (3) Other not automated CDC (specify): _____

*Underride (see specific CDC)**[Between 2 CDS applicable vehicles (Bodytype, GV07 = 1-49)]*

- (4) 1st CDC
- (5) 2nd CDC
- (6) Other not automated CDC (specify): _____

- (7) Medium/heavy truck or bus override (of any configuration)
- (9) Unknown

**HEADING ANGLE AT IMPACT FOR
HIGHEST DELTA V**

Values: (000)-(359) Code actual value

(996) Non-horizontal impact

(997) Noncollision

(998) Impact with object

(999) Unknown

53. Heading Angle For This Vehicle 274
54. Heading Angle For Other Vehicle 040

RECONSTRUCTION DATA

55. Towed Trailing Unit 0
- (0) No towed unit
- (1) Yes—towed trailing unit
- (9) Unknown
56. Documentation of Trajectory Data for This Vehicle 0
- (0) No
- (1) Yes
57. Post Collision Condition of Tree or Pole (For Highest Delta V) 0
- (0) Not collision (for highest delta V) with tree or pole
- (1) Not damaged
- (2) Cracked/sheared
- (3) Tilted <45 degrees
- (4) Tilted ≥45 degrees
- (5) Uprooted tree
- (6) Separated pole from base
- (7) Pole replaced
- (8) Other (specify): _____
- (9) Unknown

58. Basis for Total (Resultant) Delta V (highest) 01

(00) No vehicle inspection

Delta V Calculated

- (01) Reconstruction program-damage only routine
- (02) Reconstruction program-damage and trajectory routine
- (03) Missing vehicle algorithm

Delta V Not Calculated

- (04) At least one vehicle (which may be this vehicle) is beyond the scope of an acceptable reconstruction program, regardless of collision conditions.

All vehicles within scope (CDC applicable) of reconstruction program but one of the collision conditions is beyond the scope of the reconstruction program or other acceptable reconstruction technique, regardless of adequacy of damage data.

- (05) Rollover
- (06) Other non-horizontal forces
- (07) Sideswipe type damage
- (08) Severe override
- (09) Yielding object
- (10) Overlapping damage
- (11) All vehicle and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available, (specify): _____

(98) Other, (specify): _____

COMPUTER GENERATED CRASH SEVERITY

59. Total Delta V Highest
0 1 8

_____ Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: 000 means less than 0.5 kmph)
(160) 159.5 kmph and above
(999) Unknown

60. Longitudinal Component of Delta V Highest
+ 0 0 1 5

_____ Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: __000 means greater than
-0.5 kmph and less than +0.5 kmph)
(±160) ±159.5 kmph and above
(__999) Unknown

61. Lateral Component of Delta V Highest
- 0 0 9

_____ Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: __000 means greater than -0.5 kmph and
less than +0.5 kmph)
(±160) ±159.5 kmph and above
(__999) Unknown

62. Energy Absorption Highest
0 0 6 . 4 0 0

_____ Nearest 100 joules (highest)

_____ Nearest 100 joules (secondary)

(NOTE: 0000 means less than 50 joules)
(9997) 999,650 joules or more
(9999) Unknown

63. Impact Speed Highest
9 9 9

_____ Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: 000 means
less than 0.5 kmph)
(160) 159.5 kmph and above
(998) Trajectory algorithm not run
(999) Unknown

DELTA V CONFIDENCE LEVEL

64. Confidence In Reconstruction Program Results (For Highest Delta V) 1
- (0) No reconstruction
 - (1) Collision fits model — results appear reasonable
 - (2) Collision fits model — results appear high
 - (3) Collision fits model — results appear low
 - (4) Borderline reconstruction — results appear reasonable

OTHER SPEED ESTIMATE

65. Barrier Equivalent Speed Highest

0 0 8
_____ Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: 000 means
less than 0.5 kmph)
(160) 159.5 kmph and above
(999) Unknown

ESTIMATED DELTA V

66. Estimated Highest Delta V (Researcher Determined)

(0) Reconstruction Delta V coded

Estimated Delta V

- (1) Less than 10 kmph
- (2) ≥ 10 kmph but < 25 kmph
- (3) ≥ 25 kmph but < 40 kmph
- (4) ≥ 40 kmph but < 55 kmph
- (5) ≥ 55 kmph

Other estimates of damage severity

- (6) Minor
- (7) Moderate
- (8) Severe
- (9) Unknown

0

INSPECTION TYPE

67. Type of Vehicle Inspection

- (0) No inspection
- (1) Vehicle fully repaired-no damage evident
- (2) Partial inspection (specify):
Vehicle exterior under repair @ time of inspection
- (3) Complete inspection

2

DELTA V EVENT NUMBER

68. Delta V Event Number

- _____ Code the accident event sequence number that resulted in the Delta V that has been coded above for this vehicle
- (99) Unknown

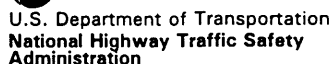
1

*** IF THE CDS APPLICABLE VEHICLE WAS NOT INSPECTED (I.E., GV67 = 0), ***

DO NOT COMPLETE THE EXTERIOR AND INTERIOR VEHICLE FORMS

*** IF GV07 DOES NOT EQUAL 01-49, DO NOT COMPLETE ***

THE EXTERIOR VEHICLE, INTERIOR VEHICLE,
OCCUPANT ASSESSMENT, AND OCCUPANT INJURY FORMS.



**NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM**

[illegible]

VEHICLE DAMAGE SKETCH

TIRE—WHEEL DAMAGE

a. Rotation physically restricted

b. Tire deflated

 RF 2
 LF /
 RR /
 LR /

 RF 2
 LF /
 RR /
 LR /

(1) Yes (2) No (8) NA (9) Unk.

TYPE OF TRANSMISSION

☐ Manual ☒ Automatic 3 speedEND SHIFT \geq 10 CM☐ Yes ☒ No

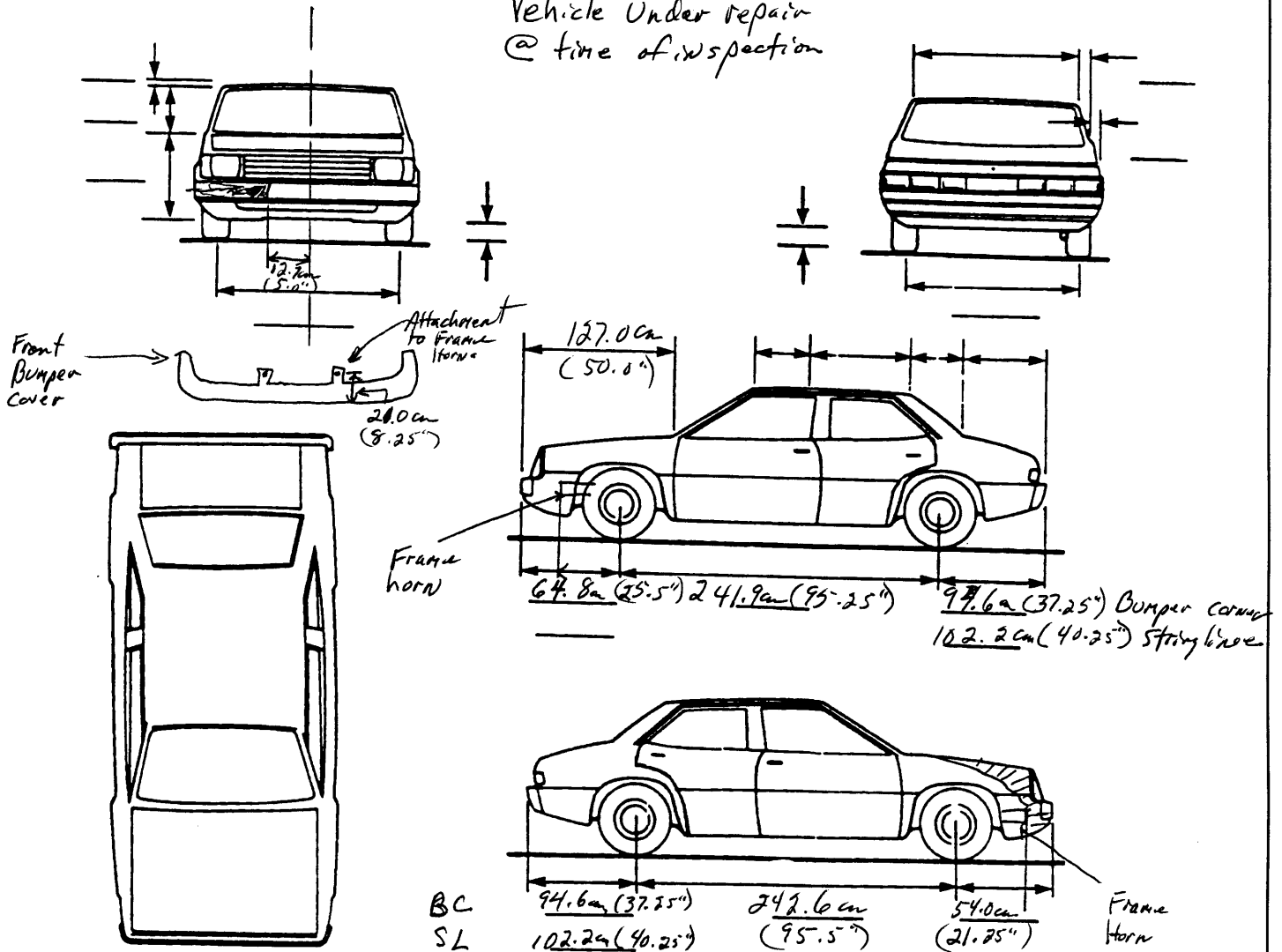
ORIGINAL SPECIFICATIONS

Wheelbase (95.7") 243.1 cmOverall Length (170.3") 432.6 cmMaximum Width (65.6") 166.6 cmCurb Weight (2346#) 1,064 kgAverage Track (56.6") 143.8 cmFront Overhang (34.4") 87.4 cmRear Overhang (40.25") 102.2 cmUndeformed End Width (54.0") 137.2 cmEngine Size: cyl./displ. 1.4 LWHEEL STEER ANGLES
(For locked front wheels or displaced rear axles only)RF \pm / °LF \pm / °RR \pm / °LR \pm / °Within \pm 5 degrees

DRIVE WHEELS

☒ FWD ☐ RWD ☐ 4WDApproximate
Cargo Weight — kg

MEASUREMENTS IN CENTIMETERS

Vehicle Under repair
@ time of inspection

NOTES: Sketch new perimeter and cross hatch direct damage and single hatch induced damage on all views. Annotate observations which might be useful in reconstructing the accident (e.g., grass in tire bead, direction of striations, scuff on sidewalls, etc.). If pulling trailer, sketch type of trailer and damage received on the back of this page.

Annotate any damage caused by extrication such as component removal by torching, prying, or hydraulic shears.

CODES FOR OBJECT CONTACTED

(99) Unknown event or object

[illegible]

COLLISION DEFORMATION CLASSIFICATION**HIGHEST DELTA "V"**

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force	(3) Deformation Location	(4) Longitudinal or Lateral Location	(5) Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
4. <u>01</u>	5. <u>01</u>	6. <u>11</u>	7. <u>F</u>	8. <u>R</u>	9. <u>E</u>	10. <u>W</u>	11. <u>01</u>

Second Highest Delta "V"

12. _____	13. _____	14. _____	15. _____	16. _____	17. _____	18. _____	19. _____
-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------

CRUSH PROFILE IN CENTIMETERS

The crush profile for the damage described in the CDC(s) above should be documented in the appropriate space below. (ALL MEASUREMENTS ARE IN CENTIMETERS.)

HIGHEST DELTA "V"

20. <u>L</u>	21. <u>C₁</u>	<u>C₂</u>	<u>C₃</u>	<u>C₄</u>	<u>C₅</u>	<u>C₆</u>	22. <u>± D</u>
<u>137</u>	<u>002</u>	<u>000</u>	<u>000</u>	<u>001</u>	<u>004</u>	<u>012</u>	<u>039</u>

Second Highest Delta "V"

23. <u>L</u>	24. <u>C₁</u>	<u>C₂</u>	<u>C₃</u>	<u>C₄</u>	<u>C₅</u>	<u>C₆</u>	25. <u>± D</u>
_____	_____	_____	_____	_____	_____	_____	_____

26. Undeformed End Width
(Coded when highest severity impact is an end plane impact.) 137
 _____ Code to the nearest centimeter
 (250) 250 centimeters or more
 (998) No highest severity end plane impact
 (999) Unknown

27. Direct Damage Width
(For highest severity impact) 052
 _____ Code to the nearest centimeter
 (250) 250 centimeters or more
 (999) Unknown

28. Original Wheelbase 243
 _____ Code to the nearest centimeter
 (650) 650 centimeters or more
 (999) Unknown
 _____ inches X 2.54 = _____ centimeters

29. Original Average Track Width 144
 _____ Code to the nearest centimeter
 (185) 185 centimeters or more
 (999) Unknown
 _____ inches X 2.54 = _____ centimeters

FUEL SYSTEM

30. Are CDCs Documented but Not Coded on The Automated File? 0
 (0) No
 (1) Yes

31. Researcher's Assessment of Vehicle Disposition 1
 (0) Not towed due to vehicle damage
 (1) Towed due to vehicle damage
 (9) Unknown

32. Is This A Multi-Stage Manufactured Vehicle And/Or A Certified Altered Vehicle? 0
 (0) No post manufacturer modifications
 (1) Yes - post manufacturer modifications (specify): _____

 (Include photograph of CERTIFICATION PLACARD in case report)
 (9) Unknown if vehicle is modified

35. Location of Fuel Tank-1 Filler Cap 2

36. Location of Fuel Tank-2 Filler Cap 0
 (0) No fuel tank
 (1) On back plane
 (2) Aft of center of the rear wheels (rear axle) on left side plane
 (3) Aft of center of the rear wheels (rear axle) on right side plane
 (4) Forward of center of the rear wheels (rear axle) on left side plane
 (5) Forward of center of the rear wheels (rear axle) on right side plane
 (6) Over the center of the rear wheels (rear axle) on left side plane
 (7) Over the center of the rear wheels (rear axle) on right side plane
 (8) Other (specify): _____
 (9) Unknown

37. Type of Fuel Tank-1 1

38. Type of Fuel Tank-2 0
 (0) No fuel tank (electrical vehicle)
 (1) Metallic
 (2) Non-metallic
 (9) Unknown

39. Location of Fuel Tank-1 4/

40. Location of Fuel Tank-2 0
 (0) No fuel tank
 (1) Aft of center of the rear wheels (rear axle) centered
 (2) Aft of center of the rear wheels (rear axle) left side
 (3) Aft of center of the rear wheels (rear axle) right side
 (4) Forward of center of the rear wheels (rear axle) centered
 (5) Forward of center of the rear wheels (rear axle) left side
 (6) Forward of center of the rear wheels (rear axle) right side
 (7) Over center of the rear wheels (rear axle)
 (8) Other (specify): _____
 (9) Unknown

41. Damage to Fuel Tank-1 1

42. Damage to Fuel Tank-2 0
 (0) No fuel tank
 (1) No damage to fuel tank
 (2) Deformed, no seam failure
 (3) Deformed, with a seam failure
 (4) Punctured
 (5) Lacerated (ripped)
 (6) Abraded (scraped)
 (7) Filler neck separation from the fuel tank
 (8) Other damage (specify): _____
 (9) Unknown

FIRE OCCURRENCE

33. Fire Occurrence 0
 (0) No fire
 Yes, fire occurred
 (1) Minor
 (2) Major
 (9) Unknown

34. Origin of Fire 0
 (0) No fire
 (1) Vehicle exterior (front, side, back, top)
 (2) Exhaust system
 (3) Fuel tank (and other fuel retention system parts)
 (4) Engine compartment
 (5) Cargo/trunk compartment
 (6) Instrument panel
 (7) Passenger compartment area
 (8) Other location (specify): _____
 (9) Unknown

<p>43. Leakage Location of Fuel System-1 <u> 1 </u></p> <p>44. Leakage Location of Fuel System-2 <u> 0 </u> (0) No fuel tank (1) No fuel leakage</p> <p><i>Primary Area Of Leakage</i> (2) Tank (3) Filler neck (4) Cap (5) Lines/pump/filter (6) Vent/emission recovery (8) Other (specify): _____ (9) Unknown</p> <p>45. Fuel Type-1 <u> 0 </u> <u> 1 </u></p> <p>46. Fuel Type-2 <u> 0 </u> <u> 0 </u></p> <p><i>Single Fuel Type</i> (00) No fuel tank (01) Gasoline (02) Diesel (03) CNG (Compressed Natural Gas) (04) LPG (Liquid Petroleum Gas) also known as Propane (05) LNG (Liquid Natural Gas) (06) Methanol (M100 or M85) (07) Ethanol (E100 or E85) (08) Other (Hydrogen or others) (specify): _____</p> <p><i>Electric Powered or Electric/Solar Powered Vehicles</i> (10) Lead Acid Battery (11) Nickel-Iron Battery (12) Nickel-Cadmium Battery (13) Sodium Metal Chloride Battery (14) Sodium Sulfur Battery (18) Other (Specify): _____</p> <p>(98) Other Hybrid (specify): _____</p> <p>(99) Unknown fuel type</p>	<p>47. Is This Vehicle Equipped With More Than Two Fuel Tanks? <u> 0 </u> (0) No (one or two tanks only)</p> <p><i>Yes - More Than Two Tanks</i> (1) Yes -- <u>no damage</u> to any tank or filler cap and <u>no fuel system leakage</u> (2) Yes -- <u>no damage</u> to any tank or filler cap but <u>there is fuel system leakage</u> (specify leakage location): _____ (3) Yes -- <u>damage</u> to an additional tank or filler cap and <u>there is fuel system leakage</u> (specify the following): Type of tank _____ Tank location _____ Filler cap location _____ Tank damage _____ Location of leakage _____ Type of fuel _____ (9) Unknown if more than two tanks</p> <div style="text-align: center;">COMMENTS</div> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<p>*** STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT TOWED ***</p> <p>(GV10=0)</p> <p>DO NOT COMPLETE THE INTERIOR VEHICLE FORM.</p>	



INTERIOR VEHICLE FORM

1. Primary Sampling Unit Number _____

2. Case Number - Stratum 9605

3. Vehicle Number 02

INTEGRITY

4. Passenger Compartment Integrity 00

(00) No integrity loss

Yes, Integrity Was Lost Through

- (01) Windshield
- (02) Door (side)
- (03) Door/hatch (back door)
- (04) Roof
- (05) Roof glass
- (06) Side window
- (07) Rear window (backlight)
- (08) Roof and roof glass
- (09) Windshield and door (side)
- (10) Windshield and roof
- (11) Side and rear window (side window and backlight)
- (12) Windshield and side window
- (13) Door and side window
- (98) Other combination of above (specify): _____

(99) Unknown _____

Door, Tailgate or Hatch Opening

5. LF 1 6. RF 1 7. LR 1 8. RR 1 9. TG/H 0

- (0) No door/gate/hatch
- (1) Door/gate/hatch remained closed and operational
- (2) Door/gate/hatch came open during collision
- (3) Door/gate/hatch jammed shut
- (8) Other (specify): _____
- (9) Unknown _____

Damage/Failure Associated with Door, Tailgate or Hatch Opening in Collision. If IV05-IV09 ≠ 2, Then code 0

10. LF 0 11. RF 0 12. LR 0 13. RR 0 14. TG/H 0

- (0) No door/gate/hatch or door not opened

Door, Tailgate or Hatch Came Open During Collision

- (1) Door operational (no damage)
- (2) Latch/striker failure due to damage
- (3) Hinge failure due to damage
- (4) Door structure failure due to damage
- (5) Door support (i.e., pillar, sill, roof side rail, etc.) failure due to damage
- (6) Latch/striker and hinge failure due to damage
- (8) Other failure (specify): _____

(9) Unknown _____

GLAZING

Type of Window/Windshield Glazing

15. WS 1 16. LF 2 17. RF 2 18. LR 2 19. RR 2
20. BL 2 21. Roof 0 22. Other 2

- (0) No glazing
- (1) AS-1 — Laminated
- (2) AS-2 — Tempered
- (3) AS-3 — Tempered-tinted (original)
- (4) AS-2 — Tempered-with after market tint
- (5) AS-3 — Tempered-tinted (with additional after market tint)
- (6) AS-14 — Glass/Plastic
- (7) Glazing removed prior to accident
- (8) Other (specify): _____
- (9) Unknown _____

Window Precrash Glazing Status

23. WS 1 24. LF 2 25. RF 2 26. LR 2 27. RR 2
28. BL 1 29. Roof 0 30. Other 1

- (0) No glazing
- (1) Fixed
- (2) Closed
- (3) Partially opened
- (4) Fully opened
- (7) Glazing removed prior to accident
- (9) Unknown _____

Glazing Damage from Impact Forces

31. WS 1 32. LF 1 33. RF 1 34. LR 1 35. RR 1
36. BL 1 37. Roof 0 38. Other 1

- (0) No glazing
- (1) No glazing damage from impact forces
- (2) Glazing in place and cracked from impact forces
- (3) Glazing in place and holed from impact forces
- (4) Glazing out-of-place (cracked or not) and not holed from impact forces
- (5) Glazing out-of-place and holed from impact forces
- (6) Glazing disintegrated from impact forces
- (7) Glazing removed prior to accident
- (9) Unknown if damaged _____

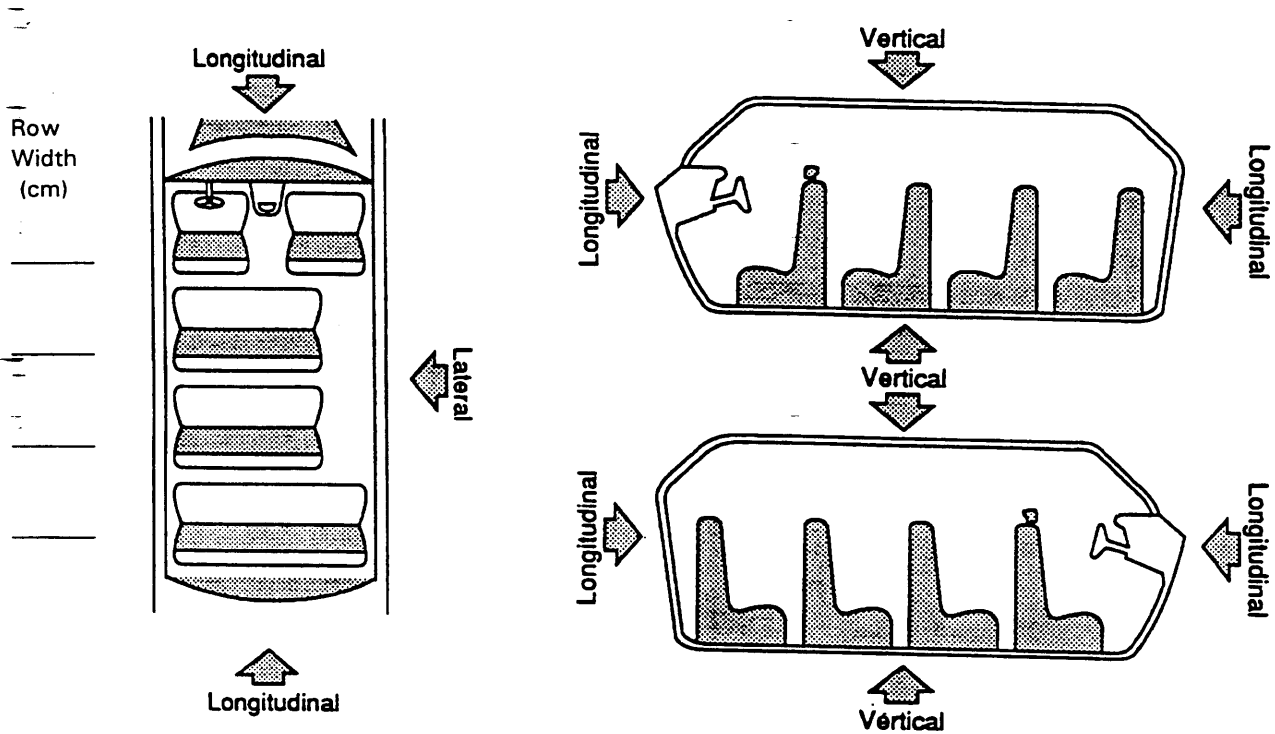
Glazing Damage from Occupant Contact

39. WS 1 40. LF 1 41. RF 1 42. LR 1 43. RR 1
44. BL 1 45. Roof 0 46. Other 1

- (0) No glazing
- (1) No occupant contact to glazing
- (2) Glazing contacted by occupant but no glazing damage
- (3) Glazing in place and cracked by occupant contact
- (4) Glazing in place and holed by occupant contact
- (5) Glazing out-of-place (cracked or not) by occupant contact and not holed by occupant contact
- (6) Glazing out-of-place by occupant contact and holed by occupant contact
- (7) Glazing removed prior to accident
- (8) Glazing disintegrated by occupant contact
- (9) Unknown if contacted by occupant _____

INTRUSION WORKSHEET

NOTE: SKETCH INTRUDED AREAS



LOCATION OF INTRUSION	INTRUDED COMPONENT	(All Measurements Are In Centimeters)			DOMINANT CRUSH DIRECTION
		COMPARISON VALUE	INTRUDED VALUE	INTRUSION	
		—	=		
		—	=		
		—	=		
		—	=		
		—	=		
		—	=		
		—	=		
		—	=		
		—	=		
		—	=		
		—	=		
		—	=		
		—	=		
		—	=		
		—	=		
		—	=		

Document no more than the 15 most severe intrusions

OCCUPANT AREA INTRUSION

Note: If no intrusions, leave variables IV47-IV86 blank.

INTRUDING COMPONENT

Interior Components

- (01) Steering assembly
 (02) Instrument panel left
 (03) Instrument panel center
 (04) Instrument panel right
 (05) Toe pan
 (06) A (A1/A2)-pillar
 (07) B-pillar
 (08) C-pillar
 (09) D-pillar
 (10) Side panel - forward of the A1/A2-pillar
 (11) Door panel (side)
 (12) Side panel - rear of the B-pillar
 (13) Roof (or convertible top)
 (14) Roof side rail
 (15) Windshield
 (16) Windshield header
 (17) Window frame
 (18) Floor pan (includes sill)
 (19) Backlight header
 (20) Front seat back
 (21) Second seat back
 (22) Third seat back
 (23) Fourth seat back
 (24) Fifth seat back
 (25) Seat cushion
 (26) Back door/panel (e.g., tailgate)
 (27) Other interior component (specify): _____

Exterior Components

- (30) Hood
 (31) Outside surface of this vehicle (specify): _____
 (32) Other exterior object in the environment (specify): _____
 (33) Unknown exterior object
 (97) Catastrophic
 (98) Intrusion of unlisted component(s) (specify): _____
 (99) Unknown

	Location of Intrusion	Intruding Component	Magnitude of Intrusion	Dominant Crush Direction
1st	47. <u>No</u>	48. <u>Intrusion</u>	49. _____	50. _____
2nd	51. _____	52. _____	53. _____	54. _____
3rd	55. _____	56. _____	57. _____	58. _____
4th	59. _____	60. _____	61. _____	62. _____
5th	63. _____	64. _____	65. _____	66. _____
6th	67. _____	68. _____	69. _____	70. _____
7th	71. _____	72. _____	73. _____	74. _____
8th	75. _____	76. _____	77. _____	78. _____
9th	79. _____	80. _____	81. _____	82. _____
10th	83. _____	84. _____	85. _____	86. _____

LOCATION OF INTRUSION

Front Seat

- (11) Left
 (12) Middle
 (13) Right

Fourth Seat

- (41) Left
 (42) Middle
 (43) Right

Second Seat

- (21) Left
 (22) Middle
 (23) Right

- (97) Catastrophic
 (98) Other enclosed area (specify) _____

(99) Unknown

Third Seat

- (31) Left
 (32) Middle
 (33) Right

MAGNITUDE OF INTRUSION

- (1) ≥ 3 centimeters but < 8 centimeters
 (2) ≥ 8 centimeters but < 15 centimeters
 (3) ≥ 15 centimeters but < 30 centimeters
 (4) ≥ 30 centimeters but < 46 centimeters
 (5) ≥ 46 centimeters but < 61 centimeters
 (6) ≥ 61 centimeters
 (7) Catastrophic
 (9) Unknown

DOMINANT CRUSH DIRECTION

- (1) Vertical
 (2) Longitudinal
 (3) Lateral
 (7) Catastrophic
 (9) Unknown

STEERING RIM/SPOKE DEFORMATION

(All Measurements Are in Centimeters)

COMPARISON VALUE

—

DAMAGE VALUE

=

DEFORMATION

—

=

—

=

—

=

—

=

STEERING COLUMN

INSTRUMENT PANEL

87. Steering Column Type 2

- (1) Fixed column
 (2) Tilt column
 (3) Telescoping column
 (4) Tilt and telescoping column
 (8) Other column type (specify): _____
 (9) Unknown _____

88. Tilt Steering Column Adjustment 1

- (0) No tilt steering column
 (1) Full up
 (2) Between full up and center
 (3) Center
 (4) Between center and full down
 (5) Full down
 (9) Unknown

89. Telescoping Steering Column Adjustment 0

- (0) No telescoping steering column
 (1) Full back
 (2) Between full back and midpoint
 (3) Midpoint
 (4) Between midpoint and full forward
 (5) Full forward
 (9) Unknown

90. Steering Rim/Spoke Deformation 00

- Code actual measured
 deformation to the nearest centimeter
 (00) No steering rim deformation
 (01-14) Actual measured value in centimeters
 (15) 15 centimeters or more
 (98) Observed deformation cannot be measured
 (99) Unknown

91. Location of Steering Rim/Spoke Deformation 00

- (00) No steering rim deformation

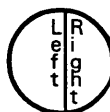
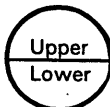
Quarter Sections

- (01) Section A
 (02) Section B
 (03) Section C
 (04) Section D



Half Sections

- (05) Upper half of rim/spoke
 (06) Lower half of rim/spoke
 (07) Left half of rim/spoke
 (08) Right half of rim/spoke



- (09) Complete steering wheel collapse
 (10) Undetermined location
 (99) Unknown

92. Odometer Reading 19,000

- _____ kilometers
 Code to the nearest 1,000 kilometers
 (000) No odometer
 (001) Less than 1,500 kilometers
 (500) 499,500 kilometers or more
 (999) Unknown
11,724 miles X 1.6093 = 18,867 kilometers

Source: Vehicle Inspection

93. Instrument Panel Damage from Occupant Contact? 0

- (0) No
 (1) Yes
 (9) Unknown

94. Type of Knee Bolster Covering 1

- (0) No knee bolster
 (1) Padded
 (2) Rigid plastic
 (8) Other (specify): _____
 (9) Unknown

95. Knee Bolsters Deformed from Occupant Contact? 1

- (0) No knee bolster
 (1) No deformation
 (2) Yes - deformation
 (9) Unknown

96. Did Glove Compartment Door Open During Collision(s)? 1

- (0) No glove compartment door
 (1) No - door did not open
 (2) Yes - door opened
 (9) Unknown

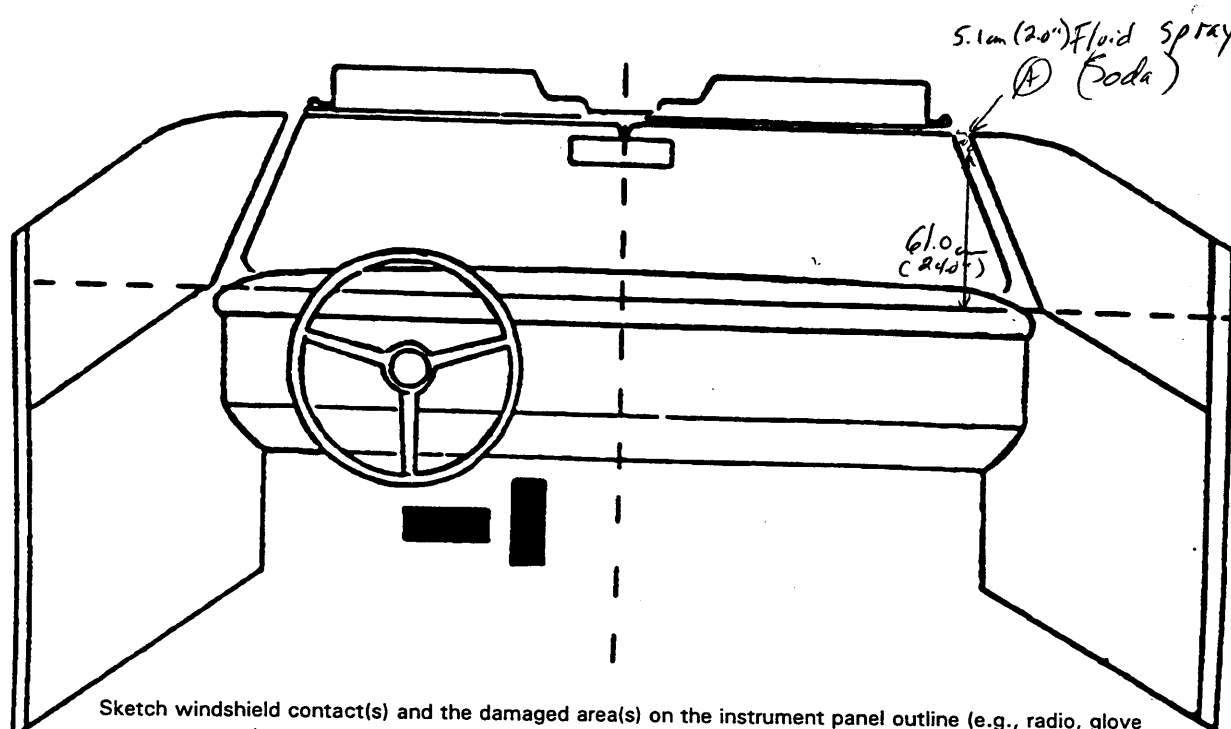
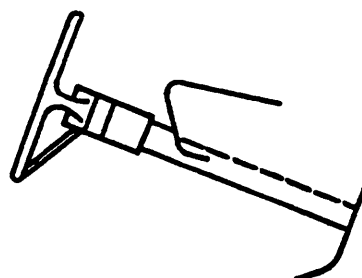
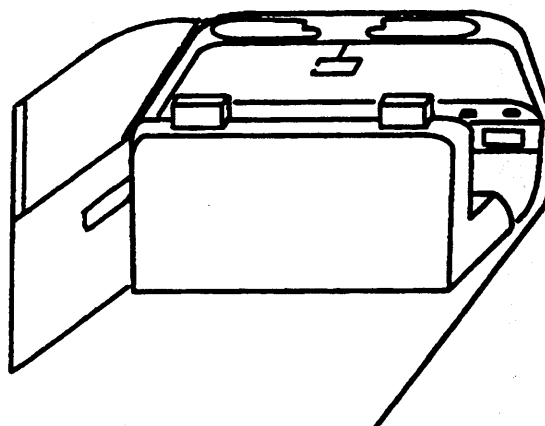
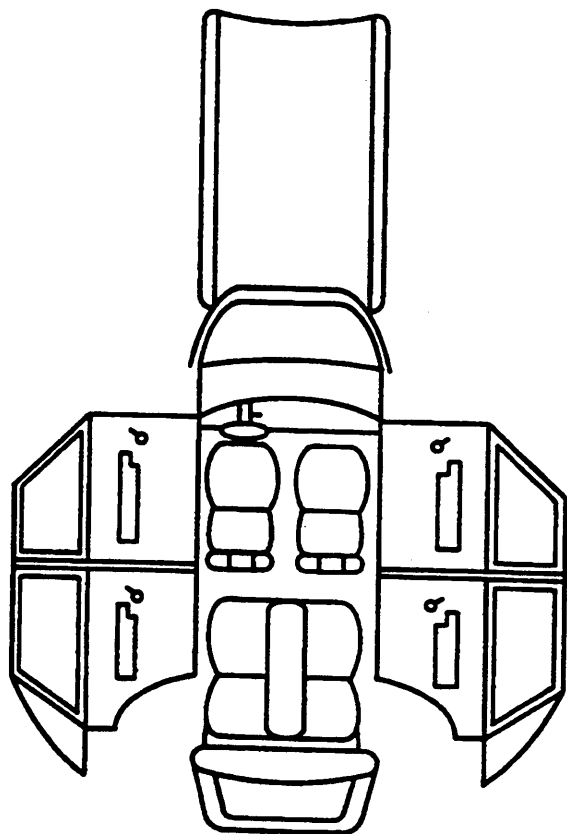
97. Adaptive (Assistive) Driving Equipment 0

- (0) No adaptive driving equipment
 (1) Adaptive driving equipment installed
 (Check all that apply.)
☐ Hand controls for braking/acceleration
☐ Steering control devices (attached to OEM steering wheel)
☐ Steering knob attached to steering wheel
☐ Low effort power steering (unit or device)
☐ Replacement steering wheel (i.e., reduced diameter)
☐ Joy-stick steering controls
☐ Wheelchair tie-downs
☐ Modification to seat belts (specify): _____
☐ Additional or relocated switches (specify): _____
☐ Raised roof
☐ Wall-mounted head rest (used behind wheelchair)
☐ Other adaptive device (specify): _____

(9) Unknown _____

VEHICLE INTERIOR SKETCHES

Note area of ejection/entrapment



Sketch windshield contact(s) and the damaged area(s) on the instrument panel outline (e.g., radio, glove compartment, damage to instrument panel structure).

Cross hatch contact points, draw spider webs or use other annotation as may be appropriate.

Annotate the contacted area with a letter (begin with A) and list on the Points of Occupant Contact page.

POINTS OF OCCUPANT CONTACT

Contact	Interior Component Contacted	Occupant No. If Known	Body Region If Known	Supporting Physical Evidence	Confidence Level of Contact Point
A	103	—	—	fluid spray (seba)	2
B					
C					
D					
E					
F					
G					
H					
I					
J					
K					
L					
M					
N					

FRONT

- (001) Windshield
 (002) Mirror
 (003) Sunvisor
 (004) Steering wheel rim
 (005) Steering wheel hub/spoke
 (006) Steering wheel (combination of codes 004 and 005)
 (007) Steering column, transmission selector lever, other attachment
 (008) Cellular telephone or CB radio
 (009) Add on equipment (e.g., tape deck, air conditioner)
 (010) Left instrument panel and below
 (011) Center instrument panel and below
 (012) Right instrument panel and below
 (013) Glove compartment door
 (014) Knee bolster
 (015) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
 (016) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
 (017) Windshield reinforced by exterior object, (specify):
 (019) Other front object (specify):

CODES FOR INTERIOR COMPONENTS

LEFT SIDE

- (051) Left side interior surface, excluding hardware or armrests
 (052) Left side hardware or armrest
 (053) Left A (A1/A2)-pillar
 (054) Left B-pillar
 (055) Other left pillar (specify):
 (056) Left side window glass
 (057) Left side window frame
 (058) Left side window sill
 (059) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
 (060) Other left side object (specify):

RIGHT SIDE

- (101) Right side interior surface, excluding hardware or armrests
 (102) Right side hardware or armrest
 (103) Right A (A1/A2)-pillar
 (104) Right B-pillar
 (105) Other right pillar (specify):
 (106) Right side window glass
 (107) Right side window frame
 (108) Right side window sill
 (109) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
 (110) Other right side object (specify):

INTERIOR

- (151) Seat, back support
 (152) Belt restraint webbing/buckle
 (153) Belt restraint B-pillar or door frame attachment point
 (154) Other restraint system component (specify):
 (155) Head restraint system
 (160) Other occupants (specify):
 (161) Interior loose objects
 (162) Child safety seat (specify):
 (163) Other interior object (specify):

AIR BAG

- (170) Air bag-driver side
 (175) Air bag compartment cover-driver side
 (180) Air bag-passenger side
 (185) Air bag compartment cover-passenger side
 (190) Other air bag (specify)
 (195) Other air bag compartment cover (specify)

ROOF

- (201) Front header
 (202) Rear header
 (203) Roof left side rail
 (204) Roof right side rail
 (205) Roof or convertible top

FLOOR

- (251) Floor (including toe pan)
 (252) Floor or console mounted transmission lever, including console
 (253) Parking brake handle
 (254) Foot controls including parking brake

REAR

- (301) Backlight (rear window)
 (302) Backlight storage rack, door, etc.
 (303) Other rear object (specify):

ADAPTIVE (ASSISTIVE) DRIVING EQUIPMENT

- (401) Hand controls for braking/acceleration
 (402) Steering control devices (attached to OEM steering wheel)
 (403) Steering knob attached to steering wheel
 (405) Replacement steering wheel (i.e., reduced diameter)
 (406) Joy stick steering controls
 (407) Wheelchair tie-downs
 (408) Modification to seat belts, (specify):
 (409) Additional or relocated switches, (specify):
 (410) Raised roof
 (411) Wall mounted head rest (used behind wheel chair)
 (412) Other adaptive device (specify):

CONFIDENCE LEVEL OF CONTACT POINT

- (1) Certain
 (2) Probable
 (3) Possible
 (9) Unknown

MANUAL RESTRAINTS

NOTES: Encode the applicable data for each seat position in the vehicle. The attribute for the variable may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

If a child safety seat is present, encode the data on the back of this page 11.

If the vehicle has automatic restraints available, encode the appropriate data on page 6.

		Left	Center	Right
FIRST	A-Availability	3		3
	B-Evidence of usage	3		00
	C-Used in this crash?	3		00
	D-Proper Use	1		0
	E-Failure Modes	1		0
	F-Anchorage Adjustment	2		0
SECOND	A-Availability	04	03	04
	B-Evidence of usage	/	/	/
	C-Used in this crash?	/	/	/
	D-Proper Use	/	/	/
	E-Failure Modes	/	/	/
	F-Anchorage Adjustment	1	1	1
OTHER	A-Availability	/	/	/
	B-Evidence of usage	/	/	/
	C-Used in this crash?	/	/	/
	D-Proper Use	/	/	/
	E-Failure Modes	/	/	/
	F-Anchorage Adjustment	/	/	/

A-Manual (Active) Belt System Availability

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available - type unknown

Integral Belt Partially Destroyed

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)
- (8) Other belt (specify):

- (9) Unknown

B/C-Manual (Active) Belt System Use

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperable (specify):

- (02) Shoulder belt
- (03) Lap belt
- (04) Lap and shoulder belt
- (05) Belt used - type unknown
- (08) Other belt used (specify):
- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat - type unknown
- (18) Other belt used with child safety seat (specify):
- (99) Unknown if belt used

D-Proper Use of Manual (Active) Belts

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

Belt Used Improperly

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify):
- (8) Other improper use of manual belt system (specify):
- (9) Unknown

E-Manual (Active) Belt Failure Modes During Accident

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):
- (6) Broken retractor
- (7) Combination of above (specify):
- (8) Other manual belt failure (specify):
- (9) Unknown

F-Shoulder Belt Upper Anchorage Adjustment

- (0) No shoulder belt
- (1) No upper anchorage adjustment for shoulder belt

Adjustable shoulder Belt Upper Anchorage

- (2) In full up position
- (3) In mid position
- (4) In full down position
- (5) Position unknown
- (9) Unknown if position has adjustable upper anchorage adjustment

AUTOMATIC RESTRAINTS

NOTES: Encode the data for each applicable front seat position. The attribute for the variables may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

AIR BAGS

		Frontal Air Bags--Left Front	Frontal Air Bags-Right Front	Other Air Bag
F I R S T	Availability/Function	1	0	0
	Deployment	1	0	0
	Failure	1	0	0

Air Bag System Availability/Function

- (0) Not equipped/not available
(1) Air bag

Non-functional

- (2) Air bag disconnected (specify):

(3) Air bag not reinstalled
(9) Unknown

**Air Bag System Deployment
(This Occupant Position)**

- (0) Not equipped/not available
(1) Deployed during accident (as a result of impact)
(2) Deployed inadvertently just prior to accident
(3) Deployed, accident sequence undetermined
(4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
(5) Unknown if deployed
(7) Nondeployed
(9) Unknown

Are There Indications of Air Bag System Failure? (This Occupant Position)

- (0) Not equipped/not available
(1) No
(2) Yes (specify):

(9) Unknown

AUTOMATIC BELTS

		Left	Right
F I R S T	A-Availability/Function	1	1
	B-Use	1	1
	C-Type	2	2
	D-Proper Use	1	1
	E-Failure Modes	1	1

A-Automatic (Passive) Belt System Availability/Function

- (0) Not equipped/not available
(1) 2 point automatic belts
(2) 3 point automatic belts
(3) Automatic belts - type unknown

Non-functional

- (4) Automatic belts destroyed or rendered inoperative
(9) Unknown

B-Automatic (Passive) Belt System Use

- (0) Not equipped/not available/destroyed or rendered inoperative
(1) Automatic belt in use
(2) Automatic belt not in use (manually disconnected, motorized track inoperative)
(3) Automatic belt use unknown
(9) Unknown

C-Automatic (Passive) Belt System Type

- (0) Not equipped/not available
(1) Non-motorized system
(2) Motorized system
(9) Unknown

D-Proper Use of Automatic (Passive) Belt System

- (0) Not equipped/not available/not used
(1) Automatic belt used properly
(2) Automatic belt used properly with child safety seat

Automatic Belt Used Improperly

- (3) Automatic shoulder belt worn under arm
(4) Automatic shoulder belt worn behind back
(5) Automatic belt worn around more than one person
(6) Lap portion of automatic belt worn on abdomen
(7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify):

- (8) Other improper use of automatic belt system (specify):

(9) Unknown

E-Automatic (Passive) Belt Failure Modes During Accident

- (0) Not equipped/not available/not in use
(1) No automatic belt failure(s)
(2) Torn webbing (stretched webbing not included)
(3) Broken buckle or latchplate
(4) Upper anchorage separated
(5) Other anchorage separated (specify):

(6) Broken retractor
(7) Combination of above (specify):
(8) Other automatic belt failure (specify):

(9) Unknown

FIRST SEAT FRONTAL AIR BAGS

NOTES: Encode the applicable data *for the driver and first seat passenger* in the vehicle. The attribute for the variable may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

	Driver	Passenger
A-Type of air bag?	1	
B-Flaps open at tear points?	2	
C-Flaps damaged?	1	
D-Air bag damaged?	01	
E-Source of air bag damage	02	
F-Air bag tethered?	2 (4 tethers)	
G-Air bag have vent ports?	2 (2 vent ports)	
H-Other occupant contact air bag?	0	
I-Occupant wearing eyewear?	9	

A-Type of Air Bag

- (0) Not equipped/not available
- (1) Original manufacturer installed system
- (2) Retrofitted air bag
- (3) Replacement air bag
- (8) Unknown type of air bag
- (9) Unknown

B-Did Air Bag Module Cover Flap(s) Open At Designated Tear Points?

- (0) Not equipped/not available
- (1) No
- (2) Yes
- (3) Deployed, unknown if flap(s) opened at designated tear points
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

C-Were Air Bag Module Cover Flap(s) Damaged?

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify):
- (3) Deployed, unknown if air bag module cover flap(s) damaged
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

D-Was There Damage To The Air Bag?

- (00) Not equipped/not available
- (01) Not damaged

Yes - Air Bag Damage

- (02) Ruptured
- (03) Cut
- (04) Torn
- (05) Holed
- (06) Burned
- (07) Abraded
- (88) Other damage (specify):

- (95) Damaged, details unknown
- (96) Deployed, unknown if damaged
- (97) Not deployed
- (98) Unknown if deployed
- (99) Unknown

E-Source of Air Bag Damage

- (00) Not equipped/not available
- (01) Not damaged
- (02) Object worn by occupant, (specify):
- (03) Object carried by occupant, (specify):
- (04) Adaptive/assistive controls, (specify):
- (05) Fire in vehicle
- (06) Thermal burns
- (07) Rescue or emergency efforts
- (88) Other damage source (specify):
- (95) Damaged, unknown source
- (96) Deployed, unknown if damaged
- (97) Not deployed
- (98) Unknown if deployed
- (99) Unknown

F-Was The Air Bag Tethered?

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify number of tether straps):
- (3) Deployed, unknown if tethered
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

G-Did The Air Bag Have Vent Ports?

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify number of vent ports):
- (3) Deployed, unknown if vent ports present
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

H-Was the Air Bag in this Occupant's Position Contacted by Another Occupant?

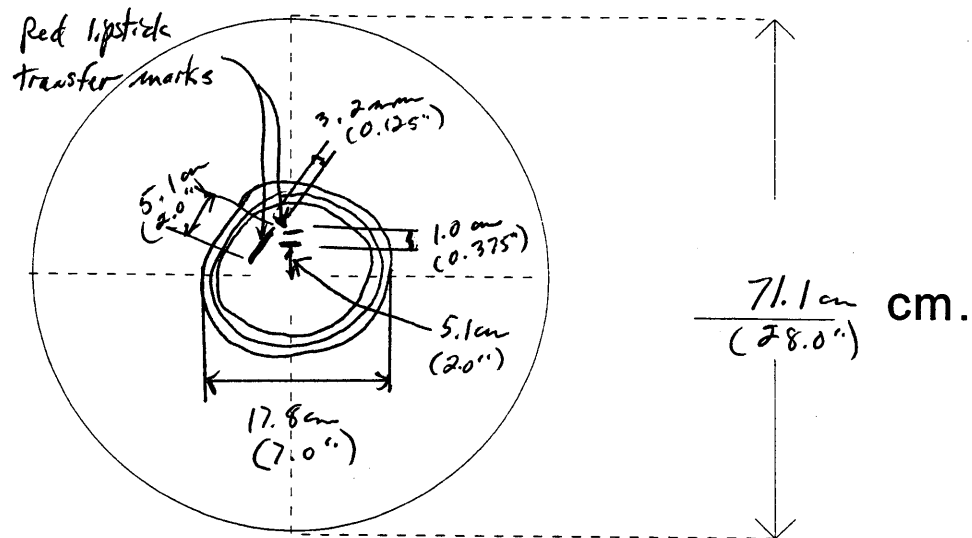
- (0) Not equipped/not available
- (1) No
- (2) Yes (specify):
- (3) Deployed, unknown if other occupant contact to air bag
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

I-Was This Occupant Wearing Eye-wear?

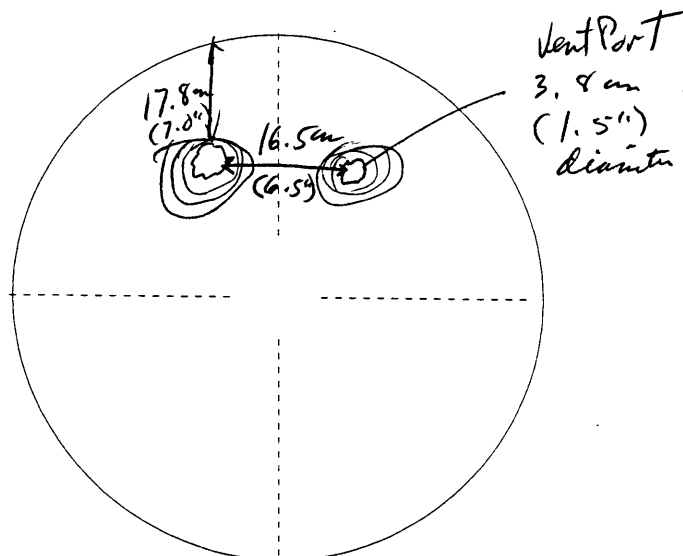
- (0) Not equipped/not available
- (1) No
- (2) Eyeglasses/sunglasses
- (3) Contact lenses
- (4) Deployed, unknown if eyewear worn
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

DRIVER AIR BAG DAMAGE AND CONTACT SKETCHES

1. SKETCH DAMAGE AND CONTACT EVIDENCE ON DRIVER AIR BAG (Front)



2. SKETCH DAMAGE AND CONTACT EVIDENCE ON DRIVER AIR BAG (Back)

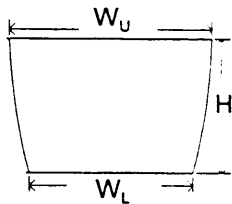


DRIVER AIR BAG SKETCHES (Cont'd)

3. DRIVER AIR BAG MODULE COVER FLAP SIZE (SINGLE)

width (W_U) _____ width (W_L) _____

height (H) _____



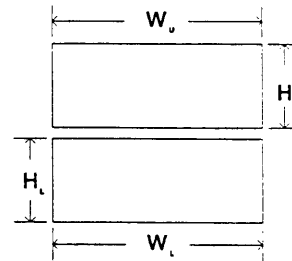
4. DRIVER AIR BAG MODULE COVER FLAP SIZE (DOUBLE)

a. Upper Flap

b. Lower Flap

width (W_U) 14.3 cm width (W_L) 14.3 cm

height (H_U) 10.8 cm height (H_L) 5.1 cm



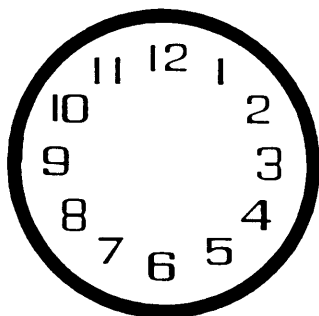
6.4 mm Flap thickness

*No loading
of contact*

5. SKETCH OF OTHER TYPE OF AIR BAG MODULE FLAP AND SIZE

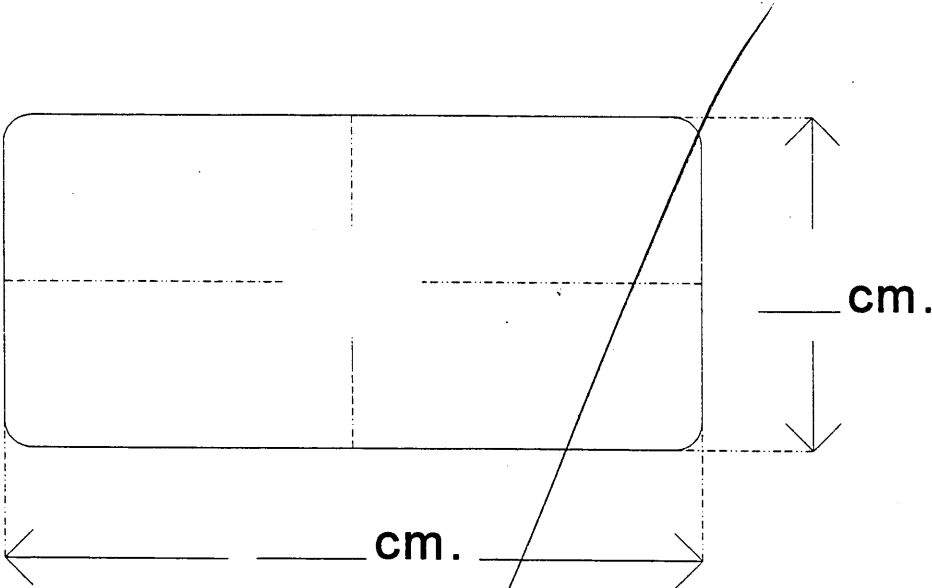
6. SKETCH OF OTHER TYPE OF AIR BAG VENT PORTS

7. SKETCH LOCATION OF CIRCULAR AIR BAG VENT PORTS

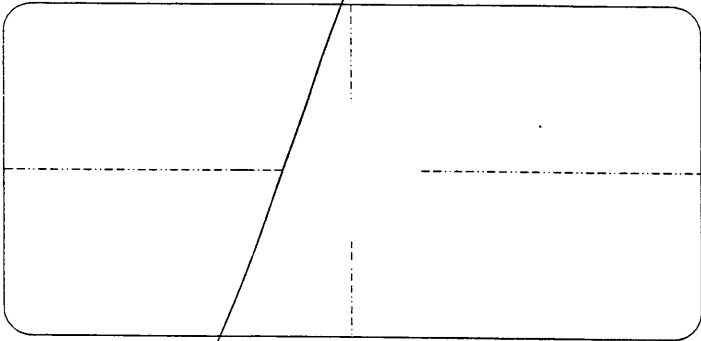


PASSENGER AIR BAG DAMAGE AND CONTACT SKETCHES

1. SKETCH DAMAGE AND CONTACT EVIDENCE ON PASSENGER AIR BAG (Front)



2. SKETCH DAMAGE AND CONTACT EVIDENCE ON PASSENGER AIR BAG (Back)

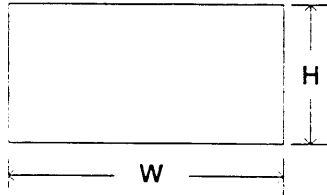


PASSENGER AIR BAG SKETCHES (Cont'd)

3. PASSENGER AIR BAG MODULE COVER FLAP SIZE (SINGLE)

width (W) _____

height (H) _____



4. PASSENGER AIR BAG MODULE COVER FLAP SIZE (DOUBLE)

a. Upper Flap

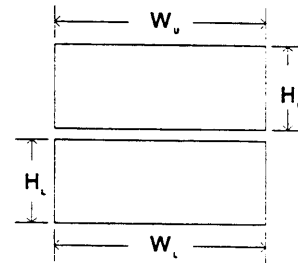
b. Lower Flap

width (W_u) _____

width (W_l) _____

height (H_u) _____

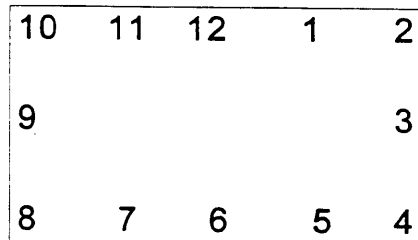
height (H_l) _____



5. SKETCH OF OTHER TYPE OF AIR BAG MODULE FLAP AND SIZE

6. SKETCH OF OTHER TYPE OF AIR BAG VENT PORTS

7. SKETCH LOCATION OF RECTANGULAR AIR BAG VENT PORTS



"OTHER" AIR BAG DAMAGE AND CONTACT SKETCHES

1. SKETCH DAMAGE AND CONTACT EVIDENCE ON "OTHER" AIR BAG (Front)

2. SKETCH DAMAGE AND CONTACT EVIDENCE ON "OTHER" AIR BAG (Back)

"OTHER" AIR BAG SKETCHES (Cont'd)

3. SKETCH AIR BAG MODULE FLAP AND SIZE OR OPENING FOR AIRBAG

4. SKETCH AIR BAG VENT PORTS

HEAD RESTRAINTS/SEAT EVALUATION

NOTES: Encode the applicable data for each seat position in the vehicle. The attribute for these variables may be found at the bottom of the page. Head restraint type/damage and seat type/performance should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

		Left	Center	Right
FIRST	A-Head Restraint Type/Damage	3	/	3
	B-Seat Type	01		01
	C-Seat Orientation	1		1
	D-Seat Track Position	5		5
	E-Seat Back Incline Pre/Post Impact	23		23
	F-Seat Performance	1		1
SECOND	A-Head Restraint Type/Damage	1	0	1
	B-Seat Type	05	05	05
	C-Seat Orientation	1	1	1
	D-Seat Track Position	1	1	1
	E-Seat Back Incline Pre/Post Impact	01	01	01
	F-Seat Performance	1	1	1
THIRD	A-Head Restraint Type/Damage	/	/	/
	B-Seat Type			
	C-Seat Orientation			
	D-Seat Track Position			
	E-Seat Back Incline Pre/Post Impact			
	F-Seat Performance			
OTHER	A-Head Restraint Type/Damage	/	/	/
	B-Seat Type			
	C-Seat Orientation			
	D-Seat Track Position			
	E-Seat Back Incline Pre/Post Impact			
	F-Seat Performance			

DESCRIBE ANY INDICATION OF ABNORMAL OCCUPANT POSTURE
(I.E., UNUSUAL OCCUPANT CONTACT PATTERN)

HEAD RESTRAINTS/SEAT EVALUATION

A-Head Restraint Type/Damage by Occupant at This Occupant Position

- (0) No head restraints
- (1) Integral — no damage
- (2) Integral — damaged during accident
- (3) Adjustable — no damage
- (4) Adjustable — damaged during accident
- (5) Add-on — no damage
- (6) Add-on — damaged during accident
- (8) Other (specify): _____
- (9) Unknown

B-Seat Type (this Occupant Position)

- (00) Occupant not seated or no seat
- (01) Bucket
- (02) Bucket with folding back
- (03) Bench
- (04) Bench with separate back cushions
- (05) Bench with folding back(s)
- (06) Split bench with separate back cushions
- (07) Split bench with folding back(s)
- (08) Pedestal (i.e., column supported)
- (09) Box mounted seat (i.e., van type)
- (10) Other seat type (specify): _____
- (99) Unknown

C-Seat Orientation (this Occupant Position)

- (0) Occupant not seated or no seat
- (1) Forward facing seat
- (2) Rear facing seat
- (3) Side facing seat (inward)
- (4) Side facing seat (outward)
- (8) Other (specify): _____
- (9) Unknown

D-Seat Track Adjusted Position Prior To Impact

- (0) Occupant not seated or no seat
- (1) Non-adjustable seat track

Adjustable Seat Track

- (2) Seat at forward most track position
- (3) Seat between forward most and middle track positions
- (4) Seat at middle track position
- (5) Seat between middle and rear most track positions
- (6) Seat at rear most track position
- (9) Unknown

E-Seat Back Incline Prior and Post Impact

- (00) Occupant not seated or no seat
- (01) Not adjustable

Upright prior to impact

- (11) Moved to completely rearward position
- (12) Moved to rearward midrange position
- (13) Moved to slightly rearward position
- (14) Retained pre-impact position
- (15) Moved to slightly forward position
- (16) Moved to forward midrange position
- (17) Moved to completely forward position

Slightly reclined prior to impact

- (21) Moved to completely rearward position
- (22) Moved to rearward midrange position
- (23) Retained pre-impact position
- (24) Moved to upright position
- (25) Moved to slightly forward position
- (26) Moved to forward midrange position
- (27) Moved to completely forward position

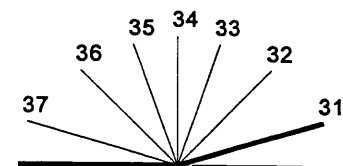
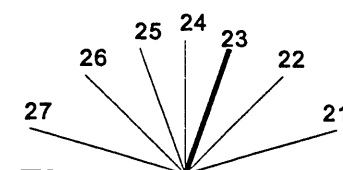
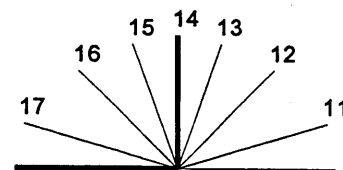
Completely reclined prior to impact

- (31) Retained pre-impact position
- (32) Moved to rearward midrange position
- (33) Moved to slightly rearward position
- (34) Moved to upright position
- (35) Moved to slightly forward position
- (36) Moved to forward midrange position
- (37) Moved to completely forward position

- (99) Unknown

F-Seat Performance (this Occupant Position)

- (0) Occupant not seated or no seat
- (1) No seat performance failure(s)
- (2) Seat adjusters failed
- (3) Seat back folding locks or "seat back" failed (specify): _____
- (4) Seat tracks/anchors failed
- (5) Deformed by impact of occupant
- (6) Deformed by passenger compartment intrusion (specify): _____
- (7) Combination of above (specify): _____
- (8) Other (specify): _____
- (9) Unknown



Coding diagrams for Seat Back Incline Position Prior and Post Impact

CHILD SAFETY SEAT FIELD ASSESSMENT

When a child safety seat is present enter the occupant's number in the first row and complete the column below the occupant's number using the codes listed below. Complete a column for each child safety seat present.

Occupant Number						
1. Type of Child Safety Seat						
2. Child Safety Seat Orientation						
3. Child Safety Seat Harness Usage						
4. Child Safety Seat Shield Usage						
5. Child Safety Seat Tether Usage						
6. Child Safety Seat Make/Model	Specify Below for Each Child Safety Seat					

1. Type of Child Safety Seat

- (0) No child safety seat
- (1) Infant seat
- (2) Toddler seat
- (3) Convertible seat
- (4) Booster seat
- (7) Other type child safety seat (specify):

- (8) Unknown child safety seat type
- (9) Unknown if child safety seat used

2. Child Safety Seat Orientation

- (00) No child safety seat
- Designed for Rear Facing for This Age/Weight
- (01) Rear facing
- (02) Forward facing
- (08) Other orientation (specify):

- (09) Unknown orientation

Designed for Forward Facing for This Age/Weight

- (11) Rear facing
- (12) Forward facing
- (18) Other orientation (specify):

- (19) Unknown orientation

Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight

- (21) Rear facing
- (22) Forward facing
- (28) Other orientation (specify):

- (29) Unknown orientation

- (99) Unknown if child safety seat used

3. Child Safety Seat Harness Usage

4. Child Safety Seat Shield Usage

- 5. Child Safety Seat Tether Usage
- Note: Options Below Are Used for Variables 3-5.
- (00) No child safety seat

Not Designed with Harness/Shield/Tether

- (01) After market harness/shield/tether added, not used
- (02) After market harness/shield/tether used
- (03) Child safety seat used, but no after market harness/shield/tether added
- (09) Unknown if harness/shield/tether added or used

Designed With Harness/Shield/Tether

- (11) Harness/shield/tether not used
- (12) Harness/shield/tether used
- (19) Unknown if harness/shield/tether used

Unknown If Designed With Harness/Shield/Tether

- (21) Harness/shield/tether not used
- (22) Harness/shield/tether used
- (29) Unknown if harness/shield/tether used

- (99) Unknown if child safety seat used

6. Child Safety Seat Make/Model

(Specify make/model and occupant number)

EJECTION/ENTRAPMENT DATA

Complete the following if the researcher has any indication that an occupant was either ejected from or entrapped in the vehicle. Code the appropriate data on the Occupant Assessment Form.

EJECTION No [☒] Yes [☐]

Describe indications of ejection and body parts involved in partial ejection(s):

Occupant Number						
Ejection						
(Note on Vehicle Interior Sketch) Ejection Area						
Ejection Medium						
Medium Status						

Ejection

- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, Unknown degree
- (9) Unknown

Ejection Area

- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear

(7) Roof

- (8) Other area (e.g., back of pickup, etc.) (specify):

(9) Unknown

Ejection Medium

- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify):

(5) Integral structure

- (8) Other medium (specify):

(9) Unknown

Medium Status (Immediately Prior to Impact)

- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

ENTRAPMENT

No [☒] Yes [☐]

Describe entrapment mechanism:

Component(s):

(Note on vehicle interior sketch)



OCCUPANT ASSESSMENT FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number

2. Case Number - Stratum

3. Vehicle Number

4. Occupant Number

OCCUPANT'S CHARACTERISTICS

5. Occupant's Age

Code actual age at time of accident.

(00) Less than one year old (specify by month):

(97) 97 years and older

(99) Unknown

6. Occupant's Sex

(1) Male

(2) Female-not reported pregnant

(3) Female-pregnant-1st trimester(1st-3rd month)

(4) Female-pregnant-2nd trimester(4th-6th month)

(5) Female-pregnant-3rd trimester(7th-9th month)

(6) Female-pregnant-term unknown

(9) Unknown

7. Occupant's Height

Code actual height to the nearest
centimeter.

(999) Unknown

_____ inches X 2.54 = _____ centimeters

8. Occupant's Weight

Code actual weight to the nearest
kilogram.

(999) Unknown

_____ pounds X .4536 = _____ kilograms

9. Occupant's Role

(1) Driver

(2) Passenger

(9) Unknown

OCCUPANT'S SEATING

10. Occupant's Seat Position

Front Seat

(11) Left side

(12) Middle

(13) Right side

(14) Other (specify):

(15) On or in the lap of another occupant

Second Seat

(21) Left side

(22) Middle

(23) Right side

(24) Other (specify):

(25) On or in the lap of another occupant

Third Seat

(31) Left side

(32) Middle

(33) Right side

(34) Other (specify):

(35) On or in the lap of another occupant

Fourth Seat

(41) Left side

(42) Middle

(43) Right side

(44) Other (specify):

(45) On or in the lap of another occupant

(97) In or on unenclosed area

(98) Other seat (specify):

(99) Unknown

11. Occupant's Posture

(0) Normal posture

Abnormal posture

(1) Kneeling or standing on seat

(2) Lying on or across seat

(3) Kneeling, standing or sitting in front of seat

(4) Sitting sideways or turned to talk with
another occupant or to look out a rear
window

(5) Sitting on a console

(6) Lying back in a reclined seat position

(7) Bracing with feet or hands on a surface in
front of seat

(8) Other abnormal posture (specify):

(9) Unknown

EJECTION/ENTRAPMENT

12. Ejection

0

- (0) No ejection
- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, unknown degree
- (9) Unknown

13. Ejection Area

0

- (0) No ejection
- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear
- (7) Roof
- (8) Other area (e.g., back of pickup, etc.)
(specify): _____
- (9) Unknown

14. Ejection Medium

0

- (0) No ejection
- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify): _____
- (5) Integral structure
- (8) Other medium (specify): _____
- (9) Unknown

15. Medium Status (Immediately Prior To Impact)

0

- (0) No ejection
- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

16. Entrapment

0

- (0) Not entrapped/exit not inhibited
- (1) Entrapped/pinned - mechanically restrained
- (2) Could not exit vehicle due to jammed doors, fire, etc.
(specify): _____
- (9) Unknown

17. Occupant Mobility

4

- (0) Occupant fatal before removed from vehicle
- (1) Removed from vehicle while unconscious or not oriented to time or place
- (2) Removed from vehicle due to perceived serious injuries
- (3) Exited vehicle with some assistance
- (4) Exited vehicle under own power
- (5) Occupant fully ejected
- (8) Removed from vehicle for other reasons
(specify): _____
- (9) Unknown

BELT SYSTEM FUNCTION

18. Manual (Active) Belt System Availability 3

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available—type unknown

Integral Belt Partially Destroyed

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)
- (8) Other belt (specify): _____

(9) Unknown _____

19. Manual (Active) Belt System Use 03

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperative (specify): _____

- (02) Shoulder belt _____
- (03) Lap belt _____
- (04) Lap and shoulder belt _____
- (05) Belt used—type unknown _____
- (08) Other belt used (specify): _____

- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat—type unknown
- (18) Other belt used with child safety seat (specify): _____
- (99) Unknown if belt used

20. Proper Use of Manual (Active) Belts +

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

Belt Used Improperly

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify): _____

(8) Other improper use of manual belt system (specify): _____

(9) Unknown _____

21. Manual (Active) Belt Failure Modes During Accident +

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify): _____

- (6) Broken retractor _____
- (7) Combination of above (specify): _____

(8) Other manual belt failure (specify): _____

(9) Unknown _____

22. Manual Shoulder Belt Upper Anchorage Adjustment 0

- (0) No manual shoulder belt
- (1) No upper anchorage adjustment for manual shoulder belt

Adjustable shoulder Belt Upper Anchorage

- (2) In full up position
- (3) In mid position
- (4) In full down position
- (5) Position unknown
- (9) Unknown if position has adjustable upper anchorage adjustment

23. Automatic (Passive) Belt System Availability/Function 1

- (0) Not equipped/not available
- (1) 2 point automatic belts
- (2) 3 point automatic belts
- (3) Automatic belts - type unknown

Non-functional

- (4) Automatic belts destroyed or rendered inoperative
- (9) Unknown

24. Automatic (Passive) Belt System Use 1

- (0) Not equipped/not available/destroyed or rendered inoperative
- (1) Automatic belt in use
- (2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify): _____
- (3) Automatic belt use unknown
- (9) Unknown

25. Automatic (Passive) Belt System Type 2

- (0) Not equipped/not available
- (1) Non-motorized system
- (2) Motorized system
- (9) Unknown

26. Proper Use of Automatic (Passive) Belt System 1

- (0) Not equipped/not available/not used
- (1) Automatic belt used properly
- (2) Automatic belt used properly with child safety seat

Automatic Belt Used Improperly

- (3) Automatic shoulder belt worn under arm
- (4) Automatic shoulder belt worn behind back
- (5) Automatic belt worn around more than one person
- (6) Lap portion of automatic belt worn on abdomen
- (7) Automatic lap and shoulder belt or

automatic shoulder belt used improperly with child safety seat (specify): _____

- (8) Other improper use of automatic belt system (specify): _____
- (9) Unknown

27. Automatic (Passive) Belt Failure Modes During Accident 1

- (0) Not equipped/not available/not in use
- (1) No automatic belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify): _____

- (6) Broken retractor _____
- (7) Combination of above (specify): _____
- (8) Other automatic belt failure (specify): _____

(9) Unknown _____

POLICE REPORTED RESTRAINT USE

AIR BAG SYSTEM FUNCTION

28. Police Reported Belt Use

- (0) None used
 (1) Police did not indicate belt use
 (2) Shoulder belt
 (3) Lap belt
 (4) Lap and shoulder belt
 (5) Belt used, type not specified
 (6) Child safety seat
 (7) Automatic belt
 (8) Other type belt, (specify):

(9) Police indicated "unknown"

29. Police Reported Air Bag Availability/Function

- (0) No air bag available
 (1) Police did not indicate air bag availability/function
 (2) Deployed
 (3) Not deployed
 (4) Unknown if deployed
 (9) Police indicated "unknown"

Check the Primary Source Used In Determining Belt Use.

- [] Vehicle inspection
 [] Official injury data
 [] Driver/occupant interview
 [] Other (specify):

[] Unknown if belt used

30. Frontal Air Bag System

Availability/Function

(This Occupant Position)

- (0) Not equipped/not available
 (1) Air bag

Non-functional

- (2) Air bag disconnected (specify):

(3) Air bag not reinstalled

(9) Unknown

31. Frontal Air Bag System Deployment

(This Occupant Position)

- (0) Not equipped/not available
 (1) Deployed during accident (as a result of impact)
 (2) Deployed inadvertently just prior to accident
 (3) Deployed, details unknown
 (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
 (5) Unknown if deployed
 (7) Nondeployed
 (9) Unknown

32. Other Than First Seat Frontal Air Bag

Availability/Function

(This Occupant Position)

- (0) Not equipped/not available
 (1) Air bag

Non-functional

- (2) Air bag disconnected (specify):

(3) Air bag not reinstalled

(9) Unknown

Specify type of "other" air bag present:

33. Air Bag(s) Deployment, Other Than First Seat Frontal (This Occupant Position)

(0) Not equipped with an "other" air bag

- (1) Deployed during accident (as a result of impact)
 (2) Deployed inadvertently just prior to accident
 (3) Deployed, details unknown
 (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
 (5) Unknown if deployed
 (7) Nondeployed
 (9) Unknown

34. Are There Indications of Air Bag System Failure?

(This Occupant Position)

- (0) Not equipped/not available
 (1) No
 (2) Yes (specify):

(9) Unknown

FIRST SEAT FRONTAL AIR BAG SYSTEM EVALUATION

35. Had Vehicle Been in Previous Accident(s)? 9

(0) Not equipped/not available

(1) No previous accidents

Yes

(2) Previous accident(s) without deployment(s)

(3) One previous accident with deployment

(4) More than one previous accident with at least one deployment

(8) Previous accidents, unknown deployment status

(9) Unknown

36. Type of Air Bag 1

(0) Not equipped/not available

(1) Original manufacturer installed system

(2) Retrofitted air bag

(3) Replacement air bag

(8) Unknown type of air bag

(9) Unknown

37. Had Any Prior Maintenance/Service Been Performed On This Air Bag System? 9

(0) Not equipped/not available

(1) No prior maintenance

(2) Yes, prior maintenance (specify): _____

(9) Unknown

38. Air Bag Deployment Accident Event Sequence Number 01

(00) Not equipped/not available

Code the accident event sequence number that initiated the air bag deployment

(96) Deployed, unknown event

(97) Not deployed

(98) Unknown if deployed

(99) Unknown

39. CDC For Air Bag Deployment Impact 1

(0) Not equipped/not available

(1) Highest delta V

(2) Second highest delta V

(3) Other non-coded delta V (specify): _____

(6) Deployed, unknown event

(7) Not deployed

(8) Unknown if deployed

(9) Unknown

40. Longitudinal Component of +

Delta V For Air Bag

Deployment Impact 0015

(_000) Not equipped/not available

Code the value of the delta V for the impact that initiated the air bag deployment

(_996) Deployment, unknown longitudinal Delta V

(_997) Not deployed

(_998) Unknown if deployed

(_999) Unknown

41. Did Air Bag Module Cover Flap(s) Open At Designated Tear Points? 2

(0) Not equipped/not available

(1) No

(2) Yes

(3) Deployed, unknown if flap(s) opened at designated tear points

(7) Not deployed

(8) Unknown if deployed

(9) Unknown

42. Were Air Bag Module Cover Flap(s) Damaged? 1

(0) Not equipped/not available

(1) No

(2) Yes (specify): _____

(3) Deployed, unknown if air bag module cover flap(s) damaged

(7) Not deployed

(8) Unknown if deployed

(9) Unknown

43. Was There Damage To The Air Bag? 01

(00) Not equipped/not available

(01) Not damaged

Yes - Air Bag Damage

(02) Ruptured

(03) Cut

(04) Torn

(05) Holed

(06) Burned

(07) Abraded

(88) Other damage (specify): _____

(95) Damaged, details unknown

(96) Deployed, unknown if damaged

(97) Not deployed

(98) Unknown if deployed

(99) Unknown

**FIRST SEAT FRONTAL AIR BAG SYSTEM
EVALUATION** *continued***HEAD RESTRAINT AND SEAT EVALUATION**

44. Source of Air Bag Damage 01
 (00) Not equipped/not available
 (01) Not damaged
 (02) Object worn by occupant, (specify):
 (03) Object carried by occupant, (specify):
 (04) Adaptive/assistive controls, (specify):
 (05) Fire in vehicle
 (06) Thermal burns
 (07) Rescue or emergency efforts
 (08) Other damage source (specify):
 (95) Damaged, unknown source
 (96) Deployed, unknown if damaged
 (97) Not deployed
 (98) Unknown if deployed
 (99) Unknown
45. Was The Air Bag Tethered? 2
 (0) Not equipped/not available
 (1) No
 (2) Yes (specify number of tether straps):
 (3) Deployed, unknown if tethered
 (7) Not deployed
 (8) Unknown if deployed
 (9) Unknown
46. Did The Air Bag Have Vent Ports? 2
 (0) Not equipped/not available
 (1) No
 (2) Yes (specify number of vent ports):
 (3) Deployed, unknown if vent ports present
 (7) Not deployed
 (8) Unknown if deployed
 (9) Unknown
47. Was the Air Bag in this Occupant's Position Contacted by Another Occupant? 1
 (0) Not equipped/not available
 (1) No
 (2) Yes (specify):
 (3) Deployed, unknown if other occupant contact to air bag
 (7) Not deployed
 (8) Unknown if deployed
 (9) Unknown
48. Was This Occupant Wearing Eye-wear? 9
 (0) Not air bag equipped/air bag not available
 (1) No
 (2) Eyeglasses/sunglasses
 (3) Contact lenses
 (4) Deployed, unknown if eyewear worn
 (7) Not deployed
 (8) Unknown if deployed
 (9) Unknown

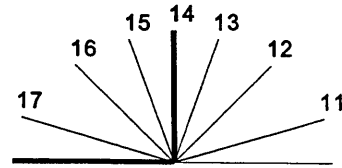
49. Head Restraint Type/Damage by Occupant at This Occupant Position 3
 (0) No head restraints
 (1) Integral—no damage
 (2) Integral—damaged during accident
 (3) Adjustable—no damage
 (4) Adjustable—damaged during accident
 (5) Add-on—no damage
 (6) Add-on—damaged during accident
 (8) Other (specify):
 (9) Unknown
50. Seat Type (this Occupant Position) 01
 (00) Occupant not seated or no seat
 (01) Bucket
 (02) Bucket with folding back
 (03) Bench
 (04) Bench with separate back cushions
 (05) Bench with folding back(s)
 (06) Split bench with separate back cushions
 (07) Split bench with folding back(s)
 (08) Pedestal (i.e., column supported)
 (09) Box mounted seat (i.e., van type)
 (10) Other seat type (specify):
 (99) Unknown
51. Seat Orientation (this Occupant Position) 1
 (0) Occupant not seated or no seat
 (1) Forward facing seat
 (2) Rear facing seat
 (3) Side facing seat (inward)
 (4) Side facing seat (outward)
 (8) Other (specify):
 (9) Unknown
52. Seat Track Adjusted Position Prior To Impact 5
 (0) Occupant not seated or no seat
 (1) Non-adjustable seat track
- Adjustable Seat Track*
 (2) Seat at forward most track position
 (3) Seat between forward most and middle track positions
 (4) Seat at middle track position
 (5) Seat between middle and rear most track positions
 (6) Seat at rear most track position
 (9) Unknown

HEAD RESTRAINT AND SEAT EVALUATION *continued*53. Seat Back Incline Prior and Post Impact 23

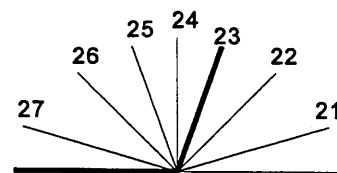
- (00) Occupant not seated or no seat
 (01) Not adjustable

Upright prior to impact

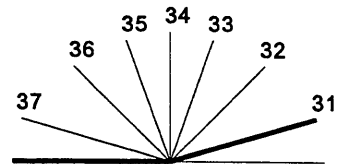
- (11) Moved to completely rearward position
 (12) Moved to rearward midrange position
 (13) Moved to slightly rearward position
 (14) Retained pre-impact position
 (15) Moved to slightly forward position
 (16) Moved to forward midrange position
 (17) Moved to completely forward position

***Slightly reclined prior to impact***

- (21) Moved to completely rearward position
 (22) Moved to rearward midrange position
 (23) Retained pre-impact position
 (24) Moved to upright position
 (25) Moved to slightly forward position
 (26) Moved to forward midrange position
 (27) Moved to completely forward position

***Completely reclined prior to impact***

- (31) Retained pre-impact position
 (32) Moved to rearward midrange position
 (33) Moved to slightly rearward position
 (34) Moved to upright position
 (35) Moved to slightly forward position
 (36) Moved to forward midrange position
 (37) Moved to completely forward position



(99) Unknown

54. Seat Performance (this Occupant Position) 1

- (0) Occupant not seated or no seat
 (1) No seat performance failure(s)
 (2) Seat adjusters failed
 (3) Seat back folding locks or "seat back" failed (specify): _____
 (4) Seat track/anchors failed
 (5) Deformed by impact of occupant
 (6) Deformed by passenger compartment intrusion, (specify): _____
 (7) Combination of above (specify): _____
 (8) Other (specify): _____
 (9) Unknown

CHILD SAFETY SEAT

55. Child Safety Seat Make/Model 000
(000) No child safety seat
Applicable codes are found in your NASS CDS
Data Collection, Coding and Editing
(950) Built-in child safety seat
(997) Other make/model (specify):

(998) Unknown make/model
(999) Unknown if child safety seat used

56. Type of Child Safety Seat 0
(0) No child safety seat
(1) Infant seat
(2) Toddler seat
(3) Convertible seat
(4) Booster seat - with shield
(5) Booster seat - without shield
(7) Other type child safety seat (specify):

(8) Unknown child safety seat type
(9) Unknown if child safety seat used

57. Child Safety Seat Orientation 00
(00) No child safety seat

Designed for Rear Facing for This Age/Weight

(01) Rear facing
(02) Forward facing
(08) Other orientation (specify):

(09) Unknown orientation

Designed For Forward Facing for This Age/Weight

(11) Rear facing
(12) Forward facing
(18) Other orientation (specify):

(19) Unknown orientation

Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight

(21) Rear facing
(22) Forward facing
(28) Other orientation (specify):

(29) Unknown orientation

(99) Unknown if child safety seat used

58. Child Safety Seat Harness Usage 00

59. Child Safety Seat Shield Usage 00

60. Child Safety Seat Tether Usage 00

Note: Options below applicable to
Variables OA58-OA60.

(00) No child safety seat

Not Designed With Harness/Shield/Tether

(01) After market harness/shield/tether
added, not used
(02) After market harness/shield/tether used
(03) Child safety seat used, but no after market
harness/shield/tether added
(09) Unknown if harness/shield/tether
added or used

Designed With Harness/Shield/Tether

(11) Harness/shield/tether not used
(12) Harness/shield/tether used
(19) Unknown if harness/shield/tether used

Unknown If Designed With Harness/Shield/Tether

(21) Harness/shield/tether not used
(22) Harness/shield/tether used
(29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

INJURY CONSEQUENCES61. Injury Severity (Police Rating) 0

- (0) O - No injury
- (1) C - Possible injury
- (2) B - Nonincapacitating injury
- (3) A - Incapacitating injury
- (4) K - Killed
- (5) U - Injury, severity unknown
- (6) Died prior to accident
- (9) Unknown

62. Treatment - Mortality 0

- (0) No treatment
- (1) Fatal
- (2) Fatal - ruled disease (specify):

Nonfatal

- (3) Hospitalization
- (4) Transported and released
- (5) Treatment at scene - nontransported
- (6) Treatment later
- (7) Treatment - other (specify):

- (8) Transported to a medical facility-unknown if treated
- (9) Unknown

63. Type Of Medical Facility (for Initial Treatment) 0

- (0) Not treated at a medical facility
- (1) Trauma center
- (2) Hospital
- (3) Medical clinic
- (4) Physician's office
- (5) Treatment later at medical facility
- (8) Other (specify):

- (9) Unknown

64. Hospital Stay 22

- (00) Not Hospitalized
- _____ Code the number of days (up through 60) that the occupant stayed in hospital.
- (61) 61 days or more
- (99) Unknown

65. Working Days Lost 79

- _____ Code the number of days (up through 60) that the occupant lost from work due to the accident
- (00) No working days lost
- (61) 61 days or more
- (62) Fatally injured
- (97) Not working prior to accident
- (99) Unknown

STOP WORK HERE**VARIABLES 66-74****TO BE CODED BY THE ZONE CENTER**

TO BE CODED BY THE ZONE CENTER**INJURY CONSEQUENCES****TRAUMA DATA**

66. Time to Death

Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 24 hours, 2 days = 48, ... n days = 24 + n up through 30 days = 60)

- (00) Not fatal
(96) Fatal - ruled disease
(99) Unknown

67. 1st Medically Reported Cause of Death

68. 2nd Medically Reported Cause of Death

69. 3rd Medically Reported Cause of Death

Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death

- (00) Not fatal or no additional causes
(96) Mode of death given but specific injuries are not linked to cause of death. (specify):

(97) Other result (includes fatal ruled disease) (specify):

(99) Unknown

70. Number of Recorded Injuries for This Occupant

Code the actual number of injuries recorded for this occupant.

- (00) No recorded injuries
(97) Injured, details unknown
(99) Unknown if injured

71. Glasgow Coma Scale (GCS) Score (at Medical Facility)

- (00) Not injured
(01) Injured - not treated at medical facility
(02) No GCS Score at medical facility
(03-15) Code the actual value of the initial GCS Score recorded at medical facility.
(97) Injured, details unknown
(99) Unknown if injured

72. Was the Occupant Given Blood?

- (1) No - blood not given
(2) Yes - blood given

(specify units):

- (9) Unknown if blood given

73. Arterial Blood Gases (ABG) - HCO_3

- (00) Not injured
(01) Injured, ABGs not measured or reported
(02-50) Code the actual value of the HCO_3
(96) ABGs reported, HCO_3 unknown
(97) Injured, details unknown
(99) Unknown if injured

BELT USE DETERMINATION

74. Primary Source of Belt Use Determination

- (0) Not equipped/not available/destroyed or rendered inoperative
(1) Vehicle inspection
(2) Official injury data
(3) Driver/occupant interview
(8) Other (specify):
(9) Unknown if belt used